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Thesis

GRAPHIC REPRESENTATION IN ANNUAL REPORTS

BY

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# TABLE OF CONTENTS

I.	MANY IMPROVEMENTS ARE NEEDED IN ANNUAL REPORT GRAPHIC REPRESENTATION . . 1 (Embodying the Summary and Conclusions of this Study)
II.	THE MODERN ANNUAL REPORT IS A MAJOR PUBLIC RELATIONS INSTRUMENT . . . . 4
III.	A CENTRAL THEME AIDS IN PRODUCING AN INTEGRATED REPORT . . . . .19
IV.	A SET OF PRINCIPLES FOR THE PRESENTATION OF GRAPHS AND CHARTS IN ANNUAL REPORTS . . .31
V.	CHARTS MAKE STATISTICS INTERESTING . . . . .46
VI.	PHOTOGRAPHS, SKETCHES, AND CARTOONS LIVEN UP THE REPORT . . . . .65
VII..	COLOR AND WHITE SPACE EMPHASIZE VITAL INFORMATION . . . . .70
VIII.	GRAPHS HAVE DISADVANTAGES TOO . . . . .76
IX.	AN ANALYSIS OF THE GRAPHIC REPRESENTATION FOUND IN FIFTY SELECTED 1948 ANNUAL REPORTS . . .80





# LIST OF CHARTS

Chart	Title	Page
1	Four Major Types of Graphic Representation	ix
2	Compound Bars	50
3	Loss & Gain Chart	50
4	Gantt Progress Chart	51
5	Band Chart	52
6	Silhouette Chart	54
7	Ratio Chart	56
8	Statistical Map. Sales of "Mid-West Corporation."	59a
9	Number of Pages Per Report	81
10	Uses of Graphics	82
11	Use of Different Types of Charts	83
12	Maps Per Report	91
13	Number of Drawings Used	92
14	Profitable Use of Covers	95
15	Use of Illustrations on The Balance Sheet	98
16	Uses of Color on The Balance Sheet	99



# LIST OF TABLES

Table	Title	Page
1	Number of Charts and Graphs Per Report	84
2	Number of Each Kind of Chart	85
3	Number of Years Used for Comparisons	85
4	Violations of Principles	86
5	Use of Tables of Statistics	93
6	Use of Black & White Photos	93
7	Use of Photographs	94
8	Color Schemes in Annual Reports	96
9	Subjects Used for Center Spreads	97



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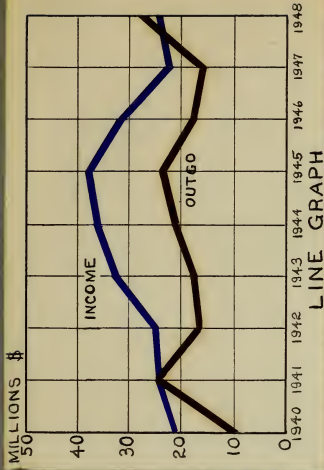
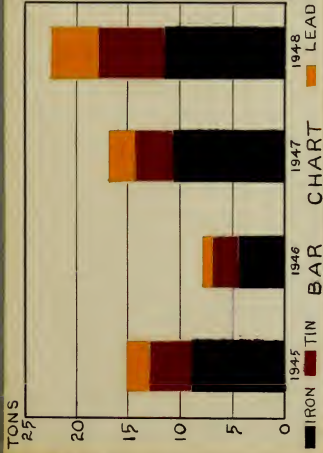
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## CHAPTER I

### MANY IMPROVEMENTS ARE NEEDED IN ANNUAL REPORT GRAPHIC REPRESENTATION (*Embodying the Summary and Conclusions of this Study*)

*"If a picture is worth a thousand words, a graph is worth a thousand figures."*<sup>1</sup>

Views about Annual Reports are many and varied. Mistaken impressions must be corrected by educating the stockholders (and others) to the purposes of Annual Reports and to the benefits that accrue from a properly prepared and presented report. This is a responsibility of management.

This study outlines some of the means by which corporate management may use graphic representation to clarify Annual Report information and thus improve stockholder and public relations. No hard and fast rules are attempted; the material is presented only as suggestions.

Stockholders constitute a principal one of the several publics in which commercial corporations are interested. It is because of this important relation between the stockholders and their company that the Annual Report should be prepared by the public relations department or by an outside agency under the supervision of the public relations department.

A central theme, other than just a review of the year, is desirable. Illustrations, charts and graphs, color, cartoons, and photographs can be

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<sup>1</sup> *The Annual Report* (Boston: S.D. Warren Company), p. 8.



used to help carry the theme through the report.

In general, the following comments may be made about *charts* and *graphs*, the fine points of which are found in the body of the thesis.

- a. People will look at properly prepared charts and graphs, while they are inclined to skip over tables of statistics.
- b. Charts and graphs must be kept simple. If they are complicated by too many comparisons, more harm than good results.
- c. Styles in Annual Reports are changed from year to year in order to maintain a desirable freshness.
- d. There are few new ideas about graphic presentation---only minor refinements. However, the field is open as to what subjects can be presented by graphics.
- e. Bar charts with explanatory pictures are probably the best means of graphic representation of statistical facts.
- f. Pie charts, though popular, have nothing to recommend them for analytical purposes.
- g. More maps presenting a greater variety of subjects could be used effectively in Annual Reports.
- h. Accompanied by an explanatory paragraph, line charts with ratio scales and Gantt progress charts might be used to advantage in Annual Reports.
- i. Pictographs are efficient only when they are prepared in conformity with accepted guides.





Thumbnail sketches add vitality to the Annual Report, while larger drawings of contemplated projects are an excellent means of letting the stockholders know that the company is progressing.

Annual Reports can have too many photographs. All photographs used should be pertinent to the story and not just inserted for artistic effect. Color photographs are recommended for the covers, with black-and-white photographs for the interior of the report.

A definite color scheme provides cohesiveness and continuity in the report. Color is desirable on the Balance Sheet, while illustrations are not. Subdued, but not dull, colors are suggested for color schemes.

Graphics have certain limitations. The use of too many graphics results in a reduction of their effectiveness. Tables of statistics are preferred to charts and graphs under certain conditions.

The use of perspective and optical illusions in charts and graphs may result in a loss of faith in the company, on the part of the stockholders. The third dimension should be used only with extreme caution.

Assuming that the analysis of the fifty selected Annual Reports is indicative of the graphic representation as used by the more progressive companies, then graphic representation in Annual Reports, in general, needs considerable improvement. Therefore, it is believed that this study has been justified.



## CHAPTER II

### THE MODERN ANNUAL REPORT IS A MAJOR PUBLIC RELATIONS INSTRUMENT

The Annual Report has been termed the number one tool of management.<sup>1</sup> It is through the Annual Report that business and industry can inform stockholders, employees, and the public in general of what has transpired during the past year. And it is not limited to one year. The company history, its policies, its manufacturing processes, and a host of other subjects can be explained or reviewed in Annual Reports in such a way as to provide continuity and perspective.

Primarily the Annual Report was originated for the stockholders of the corporation. Most of these stockholders have an interest in their company reports, for financial reasons, if no others. Nevertheless, public opinion surveys indicate that, for the most part, Annual Reports must undergo a change, for the *reports are not fully understood*, and indeed *not thoroughly read*. Normally stockholders will not wade through solid masses of type, but graphics<sup>2</sup> usually arouse their interest sufficiently so that they will study the charts and graphs, and as a result will read the text.

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<sup>1</sup> *There Are Opportunities In Your Annual Report* (New York: Standard Research Consultants Incorporated), p.3.

<sup>2</sup> Graphics, as used in this report, refers to charts, graphs, maps, drawings, cartoons, photographs, and any other means of graphic representation.



The importance of presenting an interesting and understandable report is indicated by the Griswolds: "A company's report of its year's operations and progress is the *cornerstone* of its relations with stockholders."<sup>3</sup>

The company is up against vigorous competition by the hundreds of other demands for the stockholder's attention. The easier it is made for the stockholder to follow the line of thought of the report, the greater the likelihood that the report will be a success.

It is this lack or limitation of *good communication* that is at the base of practically all misunderstandings. To see that each party knows what the other wants is the function of public relations men. The Annual Report is a big aid to the accomplishment of this task.

Of course, the integrity of the information in the Annual Report is essential to a satisfactory report; without that, all other effort is wasted. "I am convinced," said Mr. Harry A. Bullis, Chairman, General Mills, Inc., "that if each industrial enterprise will take the trouble to explain its operations honestly and thoroughly---not only to stockholders but to employees and to the general public as well (making sure that those policies and operations are honest and ethical to begin with)---then business as a whole will be well along the way toward eliminating most of the unfair criticisms leveled against it."<sup>4</sup>

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<sup>3</sup> Glen Griswold and Denny Griswold, co-editors, *Your Public Relations* (New York: Funk & Wagnalls Company, 1948), p. 216.

<sup>4</sup> Harry A. Bullis, "Management's Responsibilities to Stockholders," an address before the Annual Conference of The Harvard Business School, Boston, Massachusetts, June 12, 1948.



The question of having an outside source, such as a public relations or accounting firm, check the accuracy of the *entire* report, is brought up often. Certainly this is an excellent idea if company personnel prepare the original report. However, it is now common practice to have an outside concern prepare the report.

A second possibility is government control by the Securities Exchange Commission, though frowned on in most instances. However, a public announcement that the company's report to the SEC had been approved would probably cause the public to have more faith in Annual Reports.

Mr. Bullis also indicated in his address at the Harvard Business School that, while much can be accomplished by Annual Reports, printed matter can never take the place of personal contact, and that any publication is, at best, a one-way communication.<sup>5</sup> Naturally two-way communication is always to be desired, but this demands extraordinary measures which are not always feasible. The next best means thus far found to tell the company's story advantageously is the modern Annual Report.

Many other media are available today to assist the public relations director in disseminating Annual Report information. Movies, radio, television, newspapers, trade magazines, and house organs are but a few of the possibilities. But none of these substitutes for the publication of an Annual Report.

Within the Annual Report itself are many methods of communicating ideas; plastic records, simplified balance sheets, improved semantics,

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<sup>5</sup> Bullis, *op. cit.*





highlighted features etc.

This study, however, is concerned only with the graphic aspects of the Annual Report. The object of the study is to attempt to show how the material in the Annual Report can be presented graphically in such a manner that the average reader will find it interesting enough to read in the first place, and, secondly, to understand it after he has looked at or read it.

No *fixed* formulas, nor any general solutions are attempted. The points made are simply suggestions of things to consider when preparing an Annual Report.

#### A. EACH PARTY HAS RESPONSIBILITIES AND RIGHTS

Industrial corporations are gradually learning that each group, management and stockholders, has duties and responsibilities as well as rights.

On the one hand, it is the company's responsibility, not only to provide the facts, but to "stimulate interest on the part of its stockholders, to try to awaken them to the responsibilities of ownership."<sup>6</sup> Management should find what has been called "the wave-frequency of interest" common to most of the stockholders and then broadcast on that frequency.<sup>7</sup>

On the other hand, stockholders, as owners, have a right to the facts and a responsibility to their joint enterprise---the responsibility of understanding the company and helping to give it the reputation it deserves.

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<sup>6</sup> Bullis, *op. cit.*

<sup>7</sup> Griswolds, *op. cit.*, p. 216.



"Today the modernized Annual Report is a factual document presenting both the favorable and unfavorable factors. Both the management's achievements and its problems should be discussed."<sup>8</sup> Conditions must be painted as they are, showing both the good and the bad. The stockholder wants the straight facts. If taxes were much greater during the past year or the company made an unwise purchase of some large machinery, the stockholder should be so informed.

#### B. THE ANNUAL REPORT SHOULD BE A PUBLIC RELATIONS FUNCTION

The Public Relations Department of a company deals with a large number of groups or publics. While the stockholders constitute just one group, it is a most important one because it is the stockholders that provide the capital to run the business. Most of the progressive companies recognize the importance of Annual Reports and in order to further good public and stockholder relations, spend quite a bit of time and effort in the preparation, production and distribution of their Annual Reports.

Public relations men long have recognized the practical possibilities of the Annual Report as a public relations tool, but often they have been confronted with apathy, and even resistance, on the part of fellow executives. when the matter of broadening the scope of the report was discussed.<sup>9</sup>

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<sup>8</sup> Weston Smith, "Annual Reports Win Industry Oscars," *American Gas Association Monthly*, Vol. 30, No. 10 (October, 1948), p. 8.



C. THE TRANSITION FROM OLD, DRY FORMS TO THE MODERN FORM  
HAS BEEN SLOW

*In twenty-five years the company Annual Report has changed from a formal, terse, technical, forbidding document to an attractively printed, illustrated pamphlet, in some cases still fairly dignified and stately, but ranging all the way up (or down) to rivals of the comic strips.*<sup>10</sup>

Of course this does not refer to *all* present day reports, for some have not made the transition.

Mr. Weston Smith, Vice-President of *Financial World*, in discussing the change to the "modern" Annual Report, stated:

*The pendulum has swung to the opposite extreme for some corporations, and undoubtedly a few have produced Annual Reports that are 'glamorous'—defined as 'deceptively charming'—too much beauty of color and illustration, and too little substance of information. But most of the reports called 'elaborate'—defined as 'prepared with great care and labor'—are worthwhile and seldom are as expensive as they appear to be. The conversion of an Annual Report into a 'yearbook' usually involves a large expenditure for talent, production and printing, but the much broader readership of the brochure, and its longer life as a reference, more than justify the added cost.*<sup>11</sup>

Naturally this trend toward popularizing the company Annual Report has been met with a mixed reception. If the several surveys taken are to be used as a guide, it seems clear that the great majority of stockholders, investment

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<sup>9</sup> K.C. Pratt, *Company Annual Reports to Stockholders and Employees* (Hamilton, Ohio: The Champion Paper and Fibre Company, 1948), p. 5.

<sup>10</sup> Thomas H. Sanders, *Company Annual Reports* (Boston: Harvard University, 1949), p. vii.

<sup>11</sup> Weston Smith "Eighth Annual Survey of Annual Reports," *Financial World*, Vol. 90, No. 1 July 7, 1948), p. 7.



analysts, and other interested parties *approve of the change.*

In the past twenty-five years the number of shareholders in American industry has more than doubled and is now made up of men and women in all walks of life. Quite a few of the larger companies have more stockholders than employees. Coupled with the increase in the number of holders has been a decrease in the size of the average holding.

Once the average stockholder owned 100 shares in American business; today he owns only about fifteen shares.<sup>12</sup> In the past, when stock ownership was less widespread, the holder was more apt to be a professional investor with a thorough knowledge of accountancy. Today, the average stockholder has little or no financial training.

#### D. ANNUAL REPORTS HAVE NUMEROUS TASKS

An Annual Report, properly presented and in turn well understood by its readers, can accomplish many things. In the first place a well-informed, friendly stockholder is a walking advertisement or "salesman" of unpurchaseable value to the company. The philosophy behind the *attractive* and *informative* Annual Report is more than technique and methods of presentation. The report must foster a pride of ownership in the enterprise---a real, partnership interest between the company and its smallest stockholder.<sup>13</sup>

To suggest that the Annual Report is a form of advertising probably will upset some of the old-line conservatives among company executives. Yet,

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<sup>12</sup>Pratt, *op.cit.*, p. 12.

<sup>13</sup>Weston Smith, "Some Annual Reports Say: Stop, Look and Listen," *Railway Progress*, Vol. II, No. 2 (April, 1948), p. 16.





Does not it all boil down to a matter of definitions? Most advertising, of whatever nature, seeks to influence the reader by giving him sound information. Even the old time Annual Report was issued for the purpose of giving information.<sup>14</sup>

Institutional "advertising" is perhaps more important than product "advertising" in Annual Reports, for the entire story of the corporation's activities should be told--not just product information.

By containing a message about the community in which the plant is located, it can incorporate the goodwill of the community, which will, in turn, benefit the employees and the management of the company.

The written material in the report can serve as an indirect means of advertising products. Although not prepared as a prospectus of the business or for the purpose of selling stock, the Annual Report will inevitably influence public attitude toward stock offerings. Salesmen should carry several spare copies of current Annual Reports of their company in their portfolio. Showing a picture of his company's new plant with the latest machines might be just the thing that swings a sale.

The Annual Report can help create acceptance of proposed expansions and to justify expenditures, by explaining just what is going to be done and how the finances will be handled.

Annual Reports are an excellent vehicle to further the idea of free enterprise and to help prevent the United States from slipping down into a socialist state.

In difficult times the stockholder who knows what is going on in his

<sup>14</sup> Pratt, *op. cit.*, p. 59.



company can be indispensable. Harlow and Black point out:

*The man who holds stock in a company and is kept well informed regarding its activities is usually the last person to wish to interfere with its smooth operation. In time of stress the public will be inclined to believe the stockholder rather than the company official.*<sup>15</sup>

These are but a few of the general ways which the Annual Report can be used to further the well-being of the issuing company.

#### E. THE ANNUAL REPORT HAS MANY AUDIENCES

*A good Annual Report need not be elaborate or expensive ---its purpose is not to entertain or amuse its readers, but to provide the facts to which the stockholder is entitled, and in a manner that can be readily understood by the average newspaper circulation.*<sup>16</sup>

The "average newspaper circulation" covers just about everybody and so can the present day Annual Report reach a large and varied audience, should the company desire it. Stockholders, employees, investment analysts, brokers, bankers, financial institutions, college students, businessmen, dealers, competitors, trade contacts, financial editors of newspapers, announcers and columnists on the radio, leaders in plant communities, and union officials constitute some of the possible audiences. In fact, some people may constitute a multiple audience when they are a stockholder, an employee, and a customer all at the same time.

Government officials form an important audience for:

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<sup>15</sup> Weston Smith, "Annual Reports Win Industry Oscars," *American Gas Association Monthly*, Vol. 30, No. 10 (October, 1948), p. 8.

<sup>16</sup> Weston Smith, "Annual Reports Win Industry Oscars," *American Gas Association Monthly*, Vol. 30, No. 10 (October, 1948), p. 8.



*Without the proper facts as to what business requires to prosper, and why, legislators and public officials impose regulations governing taxes, patents, employment, competitive relationships, and other factors that can and do hamper the fair and beneficial operation of business and industry.*<sup>17</sup>

A letter from Mr. W. W. Ebendorf, of The Coleman Company, dated April 1, 1949, states:

*True, in preparing this report our first consideration is the stockholder, but we also develop the piece with the thought in mind that it must also be an effective tool in maintaining and even improving employees relations, community relations, and relations with our jobbers and distributors. In brief, we see the Annual Report in its modernized form as a valuable media for the furtherance of good public relations.*

If the plant is a local one there are numerous places where the Annual Report might be placed in order to get the attention of the residents of the community. Doctors' and dentists' offices, barber and beauty shops, libraries, billiard rooms, and bowling halls are a few of the places it might be distributed.

"It is evident from this and other studies that facts do not necessarily speak for themselves. Facts need to be presented, displayed, interpreted, repeated, or people don't understand them."<sup>18</sup>  
Without this interpretation the facts are useless.

Mr. Weston Smith was quick to point out, in defense of the "modern" Annual Report:

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<sup>17</sup> *Opinion-Forming Annual Reports* (New York: Charles Francis Press, Inc., 1947).

<sup>18</sup> *The Public's Acceptance of The Facts and Figures of Business Accounting, op. cit., p. 13*



... the survey did not distinguish between the two kinds of stockholders: (1) those who have seen a 'modernized' Annual Report, and (2) those who are still receiving the stereotyped or backward Annual Report. What the Elmo Roper report on stockholder opinion really proved is that today the biggest majority of stockholders in history now depend upon the Annual Report as their primary source of information about their corporations.<sup>19</sup>

Mr. Smith thinks that the primary criticism of most Annual Reports is the lack of balance between editorial and illustrative matter. A successful report devotes about 50% to reading matter and 50% to photographs, charts and other illustrations.<sup>20</sup>

Quotations from several of the replies to letters sent to company executives and investment analysts by Mr. Thomas H. Sanders, author of *Company Annual Reports*, give some of the pros and cons of the graphic treatment of Annual Reports.

The gist of the comments by investment analysts is that they would prefer to have the same space devoted to additional facts and figures. One point, held in common by the majority of stockholders and analysts, is that graphics are helpful in visualizing the plant and operations.<sup>21</sup> Many stockholders have a strange idea of the expense of producing a report. Not realizing the *low cost per report*, the attitude of stockholders in general is that they would prefer the money in dividends,

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<sup>19</sup> Weston Smith, "What the Controllershship Foundation's 'Elmo Roper Report' on Stockholder Opinion Really Proved", an address before The New York Society of Security Analysts, New York, N.Y., September 28, 1948. The Roper Report will be discussed in greater detail in a later chapter.

<sup>20</sup> Weston Smith, "A New Challenge in Stockholder Relations", *Financial World*, January 19, 1949.

<sup>21</sup> Sanders, *op. cit.*, p. 13.





to a well prepared Annual Report. They do not realize the advantages of a good Annual Report and must be educated to the fact that its benefits will accrue in dividends in the long run.

Since each Annual Report is *custom made*, generalizations on costs of production are impossible.<sup>22</sup> However, it would be smart stockholder relations for the corporation to point out in an explanatory paragraph in their Annual Report the approximate cost per copy of producing the particular Annual Report.

Yet, even where the cost is justified because the run is large, the cost per copy comparatively small and the distribution helpful to public relations, some criticism may have to be dealt with.

It is doubtful, says Mr. Fred L. Black of the Nash Kelvinator Corporation, that all of the readers can be made to understand, believe, or commend financial reports, but that the company should try to reach everyone it can.<sup>23</sup>

#### F. OPINIONS ABOUT ANNUAL REPORTS DIFFER WIDELY

Stockholders are an unorganized, usually widely distributed, group of men and women whose backgrounds, interests, and knowledge of modern business

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<sup>22</sup> Generalizations can not be made because numerous variables enter into the production of Annual Report: (1) Number of copies printed, (2) Number of pages in the report, (3) Size of the page, (4) Type and weight of the paper used, (5) Number of graphics, (6) Number of colors, (7) Any fancy paper cuts, etc. But, perhaps what brings up the cost the most are changes in the report after it has been sent to the printer. Changes necessitate redoing the work and often the printers have to work overtime (at extra cost) in order to meet the deadline.

<sup>23</sup> Fred L. Black, "Dear Stockholder," *The Public Relations Journal*, Vol. 4, No. 3 (March, 1948), p. 19.



procedures and investment practices are quite different. Often it is difficult to appraise and evaluate these factors.

However, a number of surveys have been taken to try to determine just what stockholders, analysts, and the public in general think of the present day Annual Report. Perhaps the most often quoted survey is the one Mr. Elmo Roper, of the Opinion Research Corporation, made for the Controllershship Foundation, Inc., in 1947. It showed, at that time, that 45% of those polled, believe that most companies actually make more than they indicate in their Annual Reports. It further indicated that the public is unfamiliar with accounting terminology and that they believe that company financial statements are hard to understand; that one-third of the people think business in general is making too much profit; and that the public's conception of company profits does not stem from direct exposure to the facts as presented in financial statements.<sup>24</sup>

When evaluating a survey, especially one made by mail, it should be remembered that those who take the time and bother to fill out and return a questionnaire might hold entirely different views on a given point than would the majority who failed to respond.

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<sup>24</sup> *The Public's Acceptance of The Facts and Figures of Business Accounting*, A Survey for Controllershship Foundation, Inc. by Opinion Research Corporation, Princeton, New Jersey, 1947.



## G. GRAPHIC REPRESENTATION HAS A FOREMOST PART IN ANNUAL REPORTS

"No data can fail to become more impressive, more revealing, and more readily understandable when correctly presented in graphic form."<sup>26</sup> The Accounting Department furnishes cold figures---it is up to the chartmaker, through the graphic medium, to warm up and combine this information into understandable comparisons of the present and the past.

Mr. Winfield A. Savage observed that:

*In order to appreciate the superiority of a picture or a graph over a description, we have only to look at a painting and then attempt to convey to another the impression produced on us. A description would be almost meaningless without the picture itself.*<sup>27</sup>

Charts and graphs might be compared with statistical tables and narrative, as peppermint coated medicine might be compared with the uncoated variety. Both tell the story or get the job done, but the peppermint coated medicine and the charts and graphs are taken more easily. Charts enable the reader to grasp conditions immediately and comprehensively, and without a great mental effort, as they visualize in definite form the activities and trends of the various phases of the business. The contents of a balance sheet or income statement may be interesting in itself but mean little except to statistically-minded persons, until relationships are completed and portrayed by means of charts and graphs. However, not all

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<sup>26</sup> Walter E. Weld, *How to Chart Facts and Figures With Graphs* (Norwood, Massachusetts: Cordex Book Company, Inc., 1947), p. 120.

<sup>27</sup> Winfield A. Savage, *Graphic Analysis for Executives* (New York: Codex Book Company, 1926), p. 92.



people are "visual minded" and for this reason graphs can not stand entirely alone. They should be tied-in with the text.

When preparing a chart the artist is interested in making the chart effective from a graphic point of view. On the other hand, the writer's interest is to have it statistically and visually correct. Sometimes these interests conflict. This necessitates concessions, but neither should concede a point which would impair the fundamental accuracy or readability of the chart.

The outstanding features of graphics as a means of presenting facts are: 1. Simplicity, 2. Compactness and comprehensiveness, 3, Vividness, 4. Ease of operation, 5, Unlimited scope.





## CHAPTER III

### A CENTRAL THEME AIDS IN PRODUCING AN INTEGRATED REPORT

A good Annual Report should carry the reader from page to page through the report by means of impelling captions, interesting illustrations, and curiosity-arousing charts.<sup>1</sup> Yet there must be some binding force, some central thread, some overall means of integration to lend a cohesiveness and a continuity to the report.

This can be achieved in terms of a theme which embraces both (1) an idea or message, and (2) a specific visual treatment. Although these two methods are listed separately, they are, or should be, closely unified.

The many facets of the year's operations should be developed in such a way that they can be tied into a central theme which runs through the entire report.<sup>2</sup> This central theme or idea usually is introduced in a subtitle or in the president's statement. His message should set the stage and the rest of the report should follow in line. Of course, the illustrations on the front and back covers should tie-in with the main message.

In keeping with the visual theme the report should reflect the atmosphere and attitude of the company in order to convey a favorable general impression. That is to say, the report must be commensurate with the

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<sup>1</sup> Weston Smith, "Some Annual Reports Say: Stop, Look and Listen!," *Railway Progress*, Vol. 11, No. 2 (April, 1948), p.16.

<sup>2</sup> Glen Griswold and Denny Griswold, co-editors, *Your Public Relations* (New York: Funk & Wagnalls Company, 1948), p. 217.



type and size of the company. It would seem incongruous for a small company to put out a 40-page, four-colored report full of photographs and charts, or for a large corporation to prepare a 6-page, mimeographed report with no graphics. Most banks or investment houses keep on the conservative side, though the 1948 report of the Girard Trust Company of Philadelphia, is a surprising departure from this format.

With regard to the narrative that must accompany the graphics, Dr. Rudolph Flesch, author of *The Art of Plain Talk*, believe that certain reports are easy and interesting to read because they convey the feeling of being written by *human beings*, for their tone is deliberately *not* that of a corporation addressing its stockholders but that of *one person* telling another about some affairs of common interest.<sup>3</sup> Although many people assist in writing the report "one person" should edit it to see that a number of different writing styles are not present to make the context choppy.

Mrs. Denny Griswold, Co-editor of *The Public Relations News*, believes that each page of the report, be it narrative or graphics, should reflect the public relations policy of the company.

Though modern Annual Reports treat more or less the same subjects and use the same technique, each report should have its own individuality. This individuality is achieved because the report was designed to fit a particular company.

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<sup>3</sup> Lillian Doris, *Modern Corporate Reports* (New York: Prentice-Hall, Inc., 1948), From Chapter 15, written by Dr. Rudolph Flesch, p. 198.



## A. A GENERAL PLAN IS HELPFUL

"The report must be a FINANCIAL REPORT first of all; it may be no more than that; it may be much more than that."<sup>4</sup> No rules can be laid down as to what plan the report should follow or the order in which subjects should be treated, but some type of outline or general plan is helpful.

Dr. William A. Nielander, Professor of Marketing and Public Relations at Hofstra College, suggests that a short or highlighted statement come at the beginning, followed by graphic representation of that information in the center, and completed by a financial statement in the back. The other material to be covered would be fitted in so that the flow of ideas is harmonious.

Miss Lillian Doris gives a more expanded outline in her book, *Modern Corporate Reports*.<sup>5</sup> She suggests that after a central theme has been selected, the following be organized into a report in conformity with that theme:

1. Open the report with a statement that summarizes the year's results. This may be in the form of a table of highlights, the president's report, or some type of graphic presentation.
2. Treat the subject of dividends early in the report. That is the one thing that interests every stockholder.

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<sup>4</sup> *The Annual Report* (Boston: S. D. Warren Company).

<sup>5</sup> Doris, *op. cit.*, pp. 17-18.



3. Construct the report as a commentary upon each item in the financial statement.

4. Devote the first part of the report to a review of the year and the second part to such subjects as:

- a. The company's products
- b. Explanations of any special policies and/or programs
- c. How a certain manufacturing process is carried out.

Since the Annual Report is a possible sales brochure, advertising techniques may be used in it to good advantage. *Printers' Ink* listed ten such techniques that might benefit the Annual Report<sup>6</sup>:

1. Use of cartoon technique to tell the story.
2. A letter calling attention to something new is always of interest and is a good way to get people to open the report. The letter might be attached to the outside of the mailing envelope of the Annual Report using a "two-in-one" mailer.
3. Complex items, such as current assets and wages, should be broken down further, for easier consumption.
4. A small sketch or photo can add interest to a chart or graph when the two are coupled together. Of course, this illustration should in no way interfere with the message the chart is trying to convey.
5. Similarly, product symbols on a statistical page help relieve the monotony.

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<sup>6</sup> "Stockholder Reports Can Benefit From These 10 Advertising Techniques", *Printers' Ink*, 224:40-41, July 9, 1948.





6. Play up the highlights of the report by the use of graphics.
7. Show the balance sheet with charts. It is possible to portray graphically all of the information found in the balance sheet.
8. The growth of the company in chart form is a selling point.
9. Large copy areas often can be replaced profitably with appropriate photography.
10. Page bottoms may be used to illustrate branch offices, executive personnel, product variety, etc., provided they do not crowd the page and lose a favorable effect that might have been achieved by the use of white space.

Mr. Weston Smith uses a "C-Worthy" check list<sup>7</sup>:

1. Correct---When estimates are used they should be clearly labeled as such.
2. Complete---Both the favorable and unfavorable facts of the year's progress should be included.
3. Concise---Brevity can best be obtained by effective use of charts, maps, graphs, and other illustrations to emphasize the more important information.
4. Candid---Avoid the use of lofty language, particularly in the president's remarks.
5. Courageous---Defend policies which have been criticized if, after thorough investigation, the management still believes the policies are best for all concerned.

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<sup>7</sup> Weston Smith, "The Controller's Opportunity in Stockholder Reports", *The Controller*, 12:, December, 1944.



6. Characteristic--The report should be characteristic of the business or industry it represents.

7. Colorful---Not necessarily colorfull with reference to the use of color, but colorful in the sense that interesting language is used, photos and charts displayed, and other features used to prevent the report from being "dull."

These various outlines and check-lists are only intended to be used as a source of possible ideas or guide posts when preparing a report. As stated before, no set of rules can be used as gospel.

#### B. PICTURES AND SKETCHES CAN CARRY THE THEME

The flavor of the whole report can often be captured by the creative mind of a good artist. Many of the power companies capitalize on the figure of little "Reddy Kilowatt" and have sketched of him doing various things throughout the report. The artist skillfully guides the reader through the report by having him follow Reddy as he goes from one page to the next.

The facts of the year's progress can be so skillfully told in the narrative, charts, graphs, pictorial illustrations, and highlighted statistics that by the time the reader is carried to the financial statements he already knows the general story and only needs to look for specific details.

Of course there is always the danger that some zealous report writer will attempt to use too many and too great a variety of types of graphics. This usually results in a helter-skelter layout that does more harm than good. Mr. Dudley L. Parsons, President of Dudley L. Parsons Company, warns:

*Photos, graphs, and charts in an Annual Report are a medium of communication---not a medium of decoration. Don't throw in*



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*pictures that don't tell a definite story that is pertinent to the theme of the report. A pretty picture just for itself is good only in something like the Kodak report.*

Pictures deserve the same careful editorial consideration that is given to the narrative. Using pictures just to break up large type surfaces is a bad mistake. While it is true that many charts or photos can illuminate difficult statistical material and make it understandable at a glance, not just any picture or chart is helpful. Graphics can be just as trite as words if the compiler of the report is not careful.

### C. VARIED THEMES ARE PROFITABLE

If the same theme or overall plan is used year after year (as some companies do), interest in the report is greatly decreased. Even the most attractive and effective portions of the report should be varied from year to year. Naturally that presents the problem of coming up with a different theme each year.

Mr. George Salomon, of Appleton, Parsons & Company, in commenting on a railroad report said:

*My feeling is that the fundamental facts (general conditions under which it operates, where it runs; what it hauls; what kind of territory it serves, how it fits into the transportation network of the region, etc.), on which the structure of the company rests, are just as interesting to the stockholders as the year's financial data and operations.*

This type of information about any corporation would probably be good theme material.

A public relations theme is often appropriate. Some possibilities along this line are: (1) The opportunities offered by the territory served;



(2) Universality of the use of the product; (3) The company's part in helping to build America; and (4) What the community did to help the industry and visa versa.

Employee benefits offer many opportunities as possible themes. However, care should be taken that it is not overdone since stockholders might get the impression that they are taking a back seat. A partial list of subjects on employee benefits is: Employee suggestions used; employee insurance; medical program; road of advancement; safety program; apprenticeship training; old-timers pension plan; vacation policy; wage, hour, and bonus plan; stock-purchase plan; recreational and athletic facilities; and employee clubs.

Other possibilities to highlight in a report are: Branches and/or subsidiaries; departments within the plant; dealers; distributors; history of the company (especially effective on an anniversary); history of the product development; and even the stockholders themselves would make an excellent theme.

This discussion does not mean to imply that there should not be any tie-in with previous Annual Reports or other company publications. It is perfectly acceptable to use, for example, different illustrations but with each bleeding off the bottom and right side every time. Another way of maintaining a "family" or related treatment is to retain the same layout but vary the type faces or colors.





## D. MANY FACTORS DETERMINE THE FORMAT

The best type of layout design is one which creates a means which the theme may be carried out graphically for easy reading and favorable acceptance. Good layout, together with good artwork, good paper, and good printing, never fail to invite attention. Professional talent for layout, artwork, and printing is almost mandatory if the company desires to get the utmost from the report.

The contents and make-up of the report are influenced by a legion of factors. But some of the general considerations are: (1) The type of industry; (2) The size of the company; (3) The earning for the year; (4) Which group makes up the majority of the stockholders---housewives, farmers, bankers, etc.; (5) The various audiences that might receive the report, i.e., the total amount of the press run; and (6) The amount of other material that is sent to the stockholders during the year.

Some companies have started the practice of sending out "dual-reports" which consist of the financial information in one booklet plus a pictorial supplement. According to Mr. Weston Smith this type of make-up has not taken hold to any great extent.<sup>8</sup>

The 8½" x 11" size page is generally considered the most suitable for variety in layout. It is particularly suitable for presenting comparative statistics, charts, maps, photographs, and other illustrations. Whatever page size is decided upon, the cover should be the same size in order for the

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<sup>8</sup> Weston Smith, "Eighth Annual Survey of Annual Reports", *Financial World*, 90:7-38 July 7, 1948.



reader to thumb through the report with ease. Deckle-edges and overhanging covers may look good, but they make reading difficult. A cover that is of heavier paper stock than the inside gives a more favorable impression.

The type of paper, the weight of the paper, the number of colors used, and the number of graphics used can be combined in numerous ways to produce a pleasing format. Nevertheless, each report is *custom-made* and therefore it is difficult to lay down any specifications for the make-up.

Dr. Flesch gives a few pointers on how to "dress up" the narrative portion of the layout. He asserts that:

*Many interesting items in Annual Reports are lost because they are hidden away in the middle of solid, unappetizing chunks of print. To be readable, a report must first of all look readable.*

1. SHORT PARAGRAPHS---As a rule of thumb, a paragraph should not run over half a dozen sentences, and since the average sentence in popular writing has about seventeen words, an average paragraph shouldn't have more than one hundred words.

2. FREQUENT SUBHEADINGS---For the stockholder, as for any other reader, it is psychologically necessary to break up the pages into small manageable units. Strange as it may seem, five groups of four paragraphs each look easier to read than an unbroken succession of twenty paragraphs. The subheadings should form a rough outline of the report. This effect will be helped if they are written in the form of brief sentences rather than mere titles.

3. LARGE TYPE---The right size of type depends on the typeface---the kinds of letters used---and the lettering---white space between the lines. But the report writer, before leaving all matters of typography and format to the printer, should remember, the scientific facts that 12-point type is easier to read than 10-point type and that anything smaller than 10-point causes eyestrain for the normal reader.

4. SHORT LINES---Studies have shown that long lines make difficult reading; apparently today's readers are so accustomed to narrow newspaper columns that they find everything else troublesome.<sup>9</sup>

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<sup>9</sup> Doris, op, cit., p. 195.



## E. COVERS CREATE AN IMPORTANT IMPRESSION

The cover is of prime importance---it creates a first impression. It can attract the reader, intrigue his curiosity and impel him to open the report, or it can discourage him from the beginning. The cover of a report performs much the same function as does the headline of a newspaper article.

Covers may be elaborate or simple, but they should never be stodgy or dull. The cover can only suggest the story, not tell it, and hence it must depend more heavily on appearance than any other section of the report.<sup>10</sup> Lively typography and a touch of vigorous color can create a world of difference in the cover's appeal to turn the page. If a drawing or photo is added an idea is immediately established in the mind of the reader.

A host of companies fail to utilize the back or fourth cover. Mr. Bruce Watson calls attention to this in his remarks about a company survey:

*As might be expected, the traditional back-page, four-color illustration of the principal products of General Foods took the laurel as the best read feature of the report. More than four out of every five readers studied the back cover of the report.*<sup>11</sup>

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<sup>10</sup> Beatrice K. Tolleris, *Annual Reports, How to Plan and Write Them* (New York: National Publicity Council, 1946), p. 37.

<sup>11</sup> Bruce Watson, "What One Company Learned Its Stockholders," *Advertising & Selling*, March, 1948.



As stated before, the cover can be varied considerably, *Sterptyped* covers are to be avoided. For example, many insurance companies picture their home office on the cover, year after year, when they could make the cover far more interesting by illustrating functions or methods of conducting the business of the company.

However, three items are essential for the cover: (1) Name of the Company, (2) Title of the report---usually "Annual Report" or "Yearbook", (3) Calendar of fiscal year covered.

Some ideas for different cover formats are: (1) An embossed reproduction of the trademark or seal, (2) Gate-fold to give a large opening spread; (3) A die-cut--that permits a picture on the first page to show through, (4) A plastic spiral binding that gives the report a more "permanent" appearance, and (5) Reproduction of a painting.





## CHAPTER IV

### A SET OF PRINCIPLES FOR THE PRESENTATION OF CHARTS AND GRAPHS IN ANNUAL REPORTS

Well executed charts<sup>1</sup> attract the attention of people who, in their hurry, limit their attention to those things which are arresting, informative, and simple. A chart tells a story just as a map does. For example, a lecturer might tell an audience that it is twice as far from New York, N.Y., to Dallas, Texas, as it is to Chicago, Illinois and that it is twice as far from Boston, Massachusetts, to New York, N.Y., as it is to Hartford, Connecticut. These comparisons probably would not mean much to the audience until the lecturer pointed out these relationships on a map. This is precisely what a chart does with statistical data.

A chart is brief and paced with information. It provides the quickest, yet clearest way of getting facts from figures. A chart illustrates figures in a way that is just as enlightening as a picture which illustrates a written description.

Graphs and charts attract attention more effectively than tables, and therefore readers are much less likely to skip them. However, any attempt to show a *complicated* set of facts by means of a chart is dangerous business. A simple chart which is read and understood is far better than a complicated one which very few can decipher.

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<sup>1</sup> In this study the words "chart" and "graphs" are used interchangeably as neither the dictionary nor businessmen follow any set pattern in their usage. Both are methods of depicting statistics graphically.



While there can be no question that charts are desirable in most presentations of facts, they should be used with discretion and sparingly, for the excessive or unnecessary use of charts tends to defeat their purpose.<sup>2</sup> Unless used properly they may easily break the continuity of the reader's thoughts.

Besides being compact conveyors of essential data, they add interest to, and invite reading of, the other pages of the report in which they appear. Annual Reports without graphs or charts are difficult reading.

Certain principles of charting are accepted by most chartmakers. The following Set of Principles is a compilation of the major guides that pertain to Annual Report charting.<sup>3</sup>

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<sup>2</sup> Alta Gwinn Saunders and Chester Reed Anderson, *Business Reports* (New York: McGraw-Hill Book Company, Inc., 1940), p. 349.

<sup>3</sup> Specific references will not be given for the sources of the principles for each is a combination of several references. A list of the books used will be found at the end of the chapter.



A SET OF PRINCIPLES FOR THE PRESENTATION OF GRAPHS AND CHARTS  
IN ANNUAL REPORTS

- A. *NOT ALL TYPES OF GRAPHIC REPRESENTATION SHOULD BE ATTEMPTED IN ONE REPORT..*

There should be a pleasing variety of graphics, but too many different types spoil the effect.

- B. *THERE SHOULD NOT BE A PREPONDERANCE OF ANY ONE TYPE OF GRAPHIC..*

Using bar charts only or line graphs only does not render the desired freshness. This principle is often violated in reports that show only pictographs.

- C. *CHARTS SHOULD BE AS NEAR TO THE TEXT THEY DEPICT AS IS CONSISTENT WITH THE RELATIVE IMPORTANCE OF THE TEXT AND THE GRAPHICS..*

The practice of putting all the charts on a "chart page" may be cheaper, but it has the disadvantages of causing the reader to turn back to the text, and of losing the secondary purpose of livening up the page.

- D. *GRAPHS AND CHARTS SHOULD BE SIMPLE.*

It is best to show only one comparison per graph. Normally three comparisons are the most that should be shown on one graph. Too many comparisons or components defeat the advantages of graphs over tables.



- E. THE SOURCE OF THE INFORMATION IN THE CHART SHOULD BE INDICATED, IF OTHER THAN FROM COMPANY DATA.

Citing the source not only adds to the authenticity of the information, but enables the reader to obtain further information along the same line should he desire it.

- F. LETTERING SHOULD BE HORIZONTAL ON CHARTS AND GRAPHS.

If figures and letters are written horizontally they may be read without turning the chart. This should include labels for pie-sections, curves, and for scales.

- G. TYPE FACES SHOULD BE LIMITED TO THREE IN ONE CHART.

This renders a harmonious appearance to the charts in one report. If variety is desired, such devices as handlettered script and reverse plates can be employed.

- H. THE INDEPENDENT VARIABLE SHOULD BE LAID OFF ON THE X-AXIS (HORIZONTAL SCALE), AND THE DEPENDENT VARIABLE ON THE Y-AXIS (VERTICAL SCALE).

Time and the names of products are examples of independent variables, i.e., they don't change in accord with other variables. Dependent variables such as amount produced or percentage gained are dependent on various factors to effect their changes.





*I. A MINIMUM AMOUNT OF GRID LINES SHOULD BE SHOWN.*

Too many grid lines confuse the reader. Just enough to assist in guiding the eye should be used. Grid lines should not cross the bars or symbols for then the grid lines would cease to be a background and become a screen in the foreground. Most chartmakers have found that olive-green grid lines are the easiest on the eyes and also that curves and bars in nearly every color stand out prominently against a grid of that color.

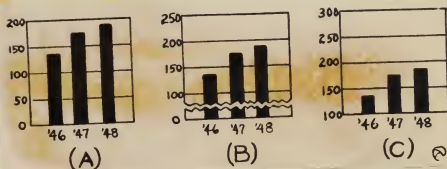
*J. GENERALLY, EVERY ARITHMETIC CHART SHOULD SHOW THE ZERO LINE ON THE Y-AXIS. OR DEPENDENT VARIABLE SCALE..*

The scale should start with a zero line and run up to and including the largest amount to be shown. This sometimes results in a chart of inconvenient height (A.) Other than reconstructing the chart with a much larger value assigned to each division of the amount scale, breaking the scale is the only acceptable way to reduce the height of such a chart. The zero line is the basis of comparison and should be included, if the representation is to be a true one. Sketch (B) shows the correct manner for breaking the scale. The amputated chart (C) is a deceptive one, tempting the average reader to compare the heights of points on the curve from the false bottom of the amputated chart-field, rather than from the true zero line. The representation

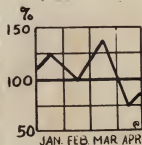


of comparative sizes has been distorted and the fluctuations exaggerated.

While it is true that the correct relationship may be ascertained by referring to the vertical scale, this should not be necessary. A chart should be so constructed that it will give a correct visual impression in a minimum of time.



There is an exception to this principle. The omission of the zero-line is justified when the zero itself is an arbitrary value, and does not really mean a "nothing". For example, when plotting the variations above and below a 100% line it is not necessary to show 0%.





- K. SCALE REPRESENTATIONS SHOULD BE KEPT SMALL, PREFERABLY WITH 5,000 AS A MAXIMUM.

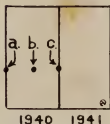
Units may be designated "In Millions of Tons" or "In Thousands of Dollars", and the comparisons will be made easier for the many people who do not understand large figures. However, care must be taken to see that it is pointed out that the designations represent larger amounts.

- L. DATES ON THE HORIZONTAL SCALE SHOULD BE LABELED PROPERLY.



Either the spaces or the lines may be labeled to indicate dates. The following may be used as a guide.

- a. Data in the nature of a reading taken at the beginning of a period, such as a first-of-the-year inventory, should be plotted at the beginning of a space.



- b. Data in the nature of a reading taken at the end of a period, such as stock of goods on hand at the end of a year, should be plotted on the line at the end of the space.

- c. Data representing averages, however, should be plotted in the middle of the appropriate space.

- M. CHRONOLOGICAL ORDER FOR DATA SHOULD BE FROM THE EARLIEST TO THE LATEST, LEFT TO RIGHT.

Reversing this normal order is disturbing to the



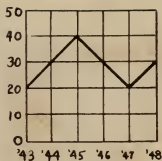
majority of readers. If it is mandatory that chronological order be used for a vertical scale, the order should be from earliest to latest, top to bottom.

N. *EACH UNIT (DIVISION) ON THE AMOUNT SCALE SHOULD APPROXIMATELY EQUAL EACH DIVISION OF THE TIME SCALE.*

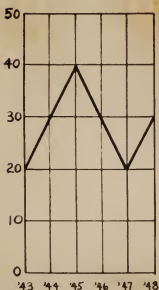
Charts have both a vertical and a horizontal axis, and therefore require two scales. These two scales may or may not have equal divisions. The curve or bar presents a more normal appearance when the paper is ruled into squares. Suppose, for example, the vertical scale is lengthened to twice its distance. The slope of the line from the lower left hand corner of the chart-field to the upper right hand corner will be much greater than the slope of a similar line drawn in the original chart-field. Thus the vertical fluctuations would be twice as great as they were before. On the other hand, if the horizontal scale were increased to twice the length of the vertical scale the slope becomes much less than originally.



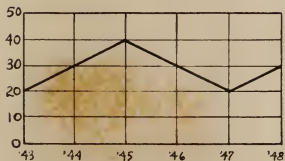




NO DISTORTION



VERTICAL DISTORTION



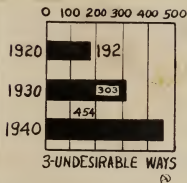
LATERAL DISTORTION

This makes the fluctuations appear only half as great as formerly. Although these charts would present the same data, some would be misleading. The scales on which a curve is drawn can effect very much the impression of the data by magnifying or minimizing the apparent movements of the curve itself. This does not mean that the *relative heights* from the base-line of the various points on the curve have been altered. It does mean that the oscillation or *fluctuation of the curve* will have been made to appear more violent or milder, according as either of the scales is changed. The same distorted results can be obtained by assigning different values to equal sized scales.

A means of preventing distortion of slope is to use ratio charts as discussed in Chapter V.



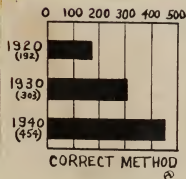
O. FIGURES SHOULD NOT BE PLACED CLOSE TO THE BARS OR COLUMNS OR SYMBOLS.



Figures placed above or below, alongside, or within the bar detract from using the bar length as the sole measure of a given magnitude. Placing data inside the bars causes the reader to compare those parts of the bars which are clear of figures, rather than the entire length of the bar. This results in an optical illusion that exaggerates

the difference in length of the bars. If the data is placed outside at the ends of the bars the reader is lead to compare the lengths of the bars plus the data. This results in an optical illusion that minimizes the difference between the bars.

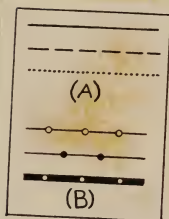
Normally, there is no need to include on the chart the numerical data from which the chart was made, since a chart is intended to show only a general situation.



In some cases it may be necessary to include the actual figures, because the stockholders demand them. If such is the case, the figures must be fitted into the layout so that they do not destroy visual unity and emphasis of the graph. Putting the exact numerical value of the bars in the stubs is an acceptable solution.



P. CURVES SHOULD BE DISTINGUISHED FROM EACH OTHER.



If too many curves, especially those that intertwine, are plotted on the same graph, confusion may result.

If colored line can not be used, dashed or dotted lines may be used. (See A.) The types shown in "B" should be avoided unless the circles or dots indicate plotted points.

Q. A LEGEND OR KEY SHOULD BE ENCLOSED IN A BOX IF IT APPEARS IN THE GRID OF THE CHART.

This will prevent the symbols or other indications from being mistaken for actual plotted material.

R. THE DARKER SHADINGS AND CROSS-HATCHINGS SHOULD BE NEXT TO THE ZERO LINE WHEN NO ONE THING IS TO BE EMPHASIZED.

The dark or heavy shadings should be near the base and the shadings should get progressively lighter as they move away from the base line. However, when a particular thing has to be emphasized it should be shown in the darkest shade or cross-hatch.



CORRECT



CORRECT



INCORRECT, UNLESS  
MIDDLE PORTIONS NEED EMPHASIS

COMPONENT BARS



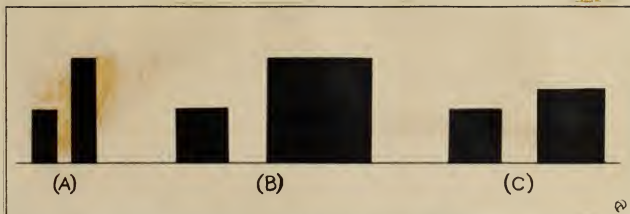
S. NEVER USE MORE DIMENSIONS THAN ARE NECESSARY.

If this principle is violated and more dimensions are used than are necessary, the purpose of using the chart in the first place will be defeated and the reader may draw erroneous conclusions from the presentation. This can best be shown by the use of an example:

Suppose it is desired to illustrate by a chart the relative size of two cities, with populations of 5,000 and 10,000 respectively. As there is only one variable (the size of the cities) a one-dimension chart will be in order. Two lines or bars, one twice as long as the other, will properly illustrate the two populations. (See A). This chart is both clear and accurate. Suppose a two-dimension chart had been used instead of lines (See B). If each dimension in the second square were twice as great as the corresponding dimension in the first, the second square would have an area four times as great as the first. It is very hard, from the chart alone, to decide exactly what the ration between the two areas is, for visual inspection is a difficult way to compare areas. Now, suppose the two areas were shown in true proportion (See C). The areas will have,







to be in the ratio of one to two (1:2) and thus the sides of the squares must be in the ratio of one to the square root of two (1:1.4). Instead of making the difference in size clearer, it has been minimized. Many readers will, through ignorance, fall back on the length of the sides as a basis of judgment, and decide that one city is only half as large again as the other.

The example may be carried further, into three-dimensions. Suppose the two populations are shown by pictures of men, the height of one twice the height of the other. The volume or weight of the two persons is such that the second is *eight* times as large or heavy as the other, for the volume of cubes or solid bodies varies with the cube of the linear dimensions. The pictures thus give a grossly exaggerated impression of the comparison of the two cities. As in the case of two-dimensional rendering, the picture is only more confusing if it is presented in a mathematically correct manner, i.e., in the ratio of one to the cube root of



two (1:1.26). The reader will be trying to choose between *three ways of judging the pictures*---by the height, surface area, or cubic volume---with a two to one chance of making the wrong choice. This is perhaps the commonest form of deceptive or ambiguous

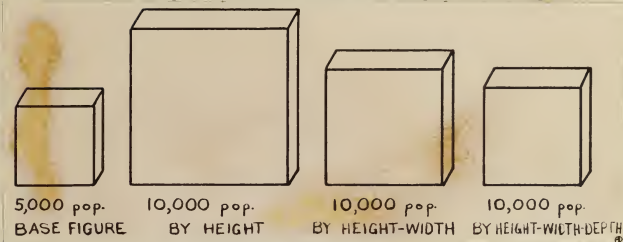


chart used in Annual Reports. It happens most frequently when the chartmaker combines a picture of his items with a chart of their mathematical ratios. As seen in the diagram this results in an area or indicated volume that is grossly deceptive. When the chartmaker uses perspective the chart can be even more deceiving.

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The following is the list of texts used to formulate the Set of Principles for The Presentation of Charts and Graphs in Annual Reports:

1. *Applied General Statistics*---Croxtton and Cowden.
2. *Charts and Graphs*---Karsten.



3. *Graphic Methods for Presenting Business Statistics*---Riggleman.
4. *Graphic Presentation*---Brinton.
5. *Graphs*---How to Make and Use Them---Arkin and Colton.
6. *How to Chart Facts From Figures With Graphs*---Weld.
7. *How to Use Pictorial Statistics*---Modley.
8. *Modern Corporate Reports*---Doris.
9. *Practical Business Statistics*---Croxtton and Cowden.
10. *Practical Rules for Graphic Presentation of Business Statistics*---  
Smart and Arnold.
11. *Statistical Tables and Graphs*---Mudgett.



## CHAPTER V

### CHARTS MAKE STATISTICS INTERESTING

The specific type of chart is to be used to portray any given set of facts is often a matter of choice. A chart is flexible in the sense that the same set of facts may usually be shown in more than one way. But there are certain types of data which can best be portrayed by certain kinds of charts, and it is important to use the type of chart best suited to the specific data at hand as well as one which is in harmony with the other charts in the report.

Types of charts are found in profusion. While many are suitable for Annual Reports quite a few are rather complicated. Until the average stockholder takes up a more detailed study of statistics and charting, it would be better to omit them. Therefore, the following types will *not* be discussed because of their advanced nature, or their infrequent use: Histograms, Zee Charts, Break-even point charts, Nomographs, Scatter Diagrams, Ogives, Lorenz Curves, Cosmographs, Polar-Coordinate graphs, and Trilinear Charts.

#### A. BAR CHARTS ARE EXTENSIVELY USED

Perhaps the most widely used and best understood chart is the Bar Chart with its many variation. The types of bar charts that are best suited for use in the Annual Report are:

1. Vertical Bar Charts.





2. Horizontal Bar Charts.
3. Compound Bar Charts.
4. Loss & Gain, or Two-Direction Bar Charts.
5. Gantt Charts.
6. Step Diagrams.
7. Band Chart (Also called: Zone, Strata, Belt, and Multiple-Surface Charts).

Bar charts may be either *simple* or *component* with respect to internal make-up and either *absolute* or *percentage* with respect to dependent variable scale.

Since many of the charting terms have multiple meanings the following are the definitions as used in this study:

*ABSOLUTE*---Quantity values shown by the various measuring units rather than by percentage.

*COMPONENT*---A section of a bar. Any bar that is divided into two or more parts is called a component bar.

*COMPOUND*--- Two (or more) periods of time or two (or more) allied types of products compared on the same chart. A chart containing several *contrasting* bars.

*PERCENTAGE*---Quantity valued shown on the basis of 100%. By using percentages unlike quantities may be compared.

*SIMPLE*-----An undivided bar. A set of facts shown for a single period, or one fact shown for several years.

*STUB* -----The column of heading found on the left side of table of statistics.

If it is desired to compare specific years, the bar chart is preferred to the line chart or pie-diagram, since each year stands out individually.

When two or more sets of component parts are to be compared, it is probably better to use a bar chart than a pie-diagram.



The bars of any bar chart should follow a definite order of arrangement. Some examples are:

- a- Time-Series---Data compared by chronological order.
- b- Magnitudes---Data compared by quantities.
- c- Geographical---Data compared by location.
- d- Alphabetical---Data compared by initial letters of its names.

With regard to arrangement by magnitude, there is an exception---the "all other" or miscellaneous item. In a horizontal bar, for example, the categories should be arranged in order of magnitude from the top to the bottom, the "all other" item should be placed at the bottom. The reason for this is that it is the aggregate of several small magnitudes which, if listed separately, would appear at the bottom of the scale.

In addition to the guides found in the Set of Principles of Chapter IV, there are a few specific recommendations on the preparation of each of the different types of bar chart.

(A). *SIMPLE VERTICAL BAR CHART.* While the vertical-scale numerals should be on the left, they can be on both the left and right at the same time. But horizontal-scale numerals should always be on the bottom of the chart. The chief value of the vertical-bar chart or "pipe-organ" as it is sometimes called, lies in the realistic picture it gives of quantities.

(B). *SIMPLE HORIZONTAL BAR CHART.* In this case the horizontal-scale numerals should be on the top of the chart. If the systematic order of the bars is by date, the earliest date should be on the top of the chart.

(C). *COMPONENT VERTICAL BAR CHART.*

1. The order of the component parts should follow some analytical



pattern that will facilitate comparisons. Ordinarily, the largest *component* of the first bar is placed at the bottom and is followed by the next largest, etc. This order should be retained for the remaining bars.

2. Hatching or shading should proceed from dark at the line of reference to lighter and lighter as the eye travels upward.

3. The key consists of sample blocks of the hatchings or shadings used, each followed by a statement of its specific meaning. The sample blocks which make up the key should be in series from the darkest to the lightest (l-r).

(D). *ABSOLUTE COMPONENT VERTICAL BAR CHART.* This chart does not lend itself to the type of comparisons that are usually sought in Annual Reports. Relative comparisons over time periods, as are ordinarily attempted cannot be made easily from such a chart.

(E). *100-PER CENT COMPONENT VERTICAL BAR CHART.* This type shows the relative change in importance of the various component parts, which is usually the type of comparison desired by the Annual Report chartmaker.

A percentage bar is often used for purposes of popular presentation where actual amounts are of little consequence. In this chart grid lines are not drawn, but relatively light lines should connect corresponding parts of the bars. All bars must equal 100%. A horizontal 100-per-cent component bar may be used but it isn't as effective as the vertical bar. Another disadvantage of the horizontal bar here is that it is much harder to letter, especially when the sections are small.

(F). *COMPOUND BAR CHART.* The compound bar chart as found in Annual Reports usually contains a comparison of two sets of data for several



years. More than two sets of data or units may be compared, but too involved a comparison may result.

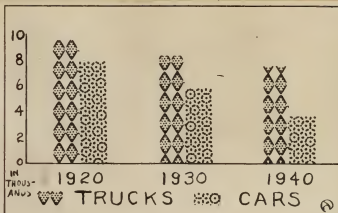


CHART-2. COMPOUND BARS

(G). *LOSS & GAIN BAR CHART.* Increases and decreases may be shown by means of the loss & gain or two-direction bar chart. Comparisons may be made either vertically or horizontally. If increases are shown in black and decreased in red, the effectiveness of this chart is increased immeasurably.

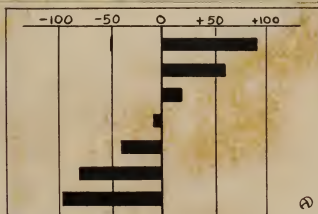


CHART-3 LOSS & GAIN CHART

(H) *GANTT PROGRESS-CHART.* This chart is not often found in Annual Reports, but it has great possibilities if accompanied with a short explanatory paragraph on its use. This chart presupposes a definite detailed schedule or plan made out in advance and generally called the "quota". The chart itself merely measures the subsequent actual performance, when it takes place, against this predetermined schedule or quota, and shows emphatically whether or not this quota is being met. The chart shows indidentally how much of





the cumulative or total quota to date has been accomplished (heavy line).

A large "V" indicates the date the information was last posted.

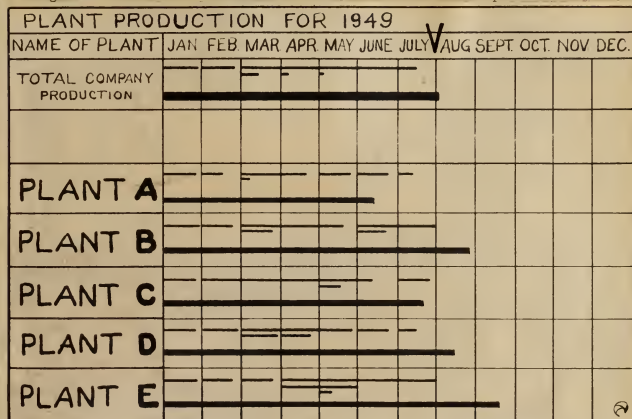


CHART-4. GANTT PROGRESS CHART

(I). *STEP DIAGRAM*. This is merely bars grouped together without any intervening spaces. It is used when the actual distribution for a certain period is unknown.

(J). *BAND CHART*. The band chart is best suited to cases where the component parts do not vary too much or too abruptly in size. Should the strata be highly irregular and the changes sudden, difficulty in reading, even to the extent of optical illusion, may result. The most useful form of the band chart is the 100% band chart. In this case the entire space between the zero or base line and the 100% line is filled with various bands, each indicating a portion of the total or 100%. The fluctuations of these bands show graphically the changes of the component elements of this 100%.



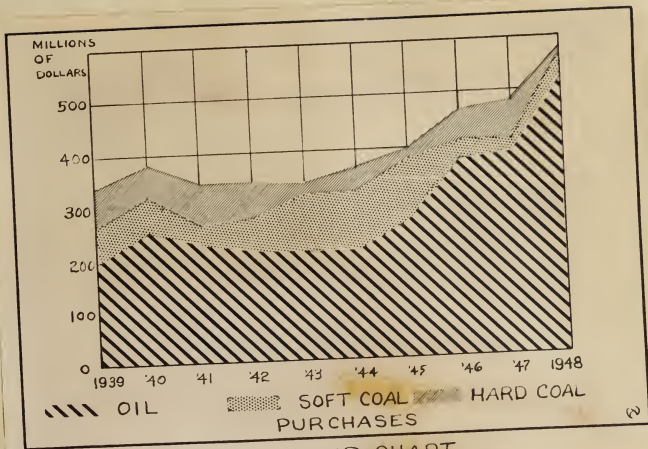


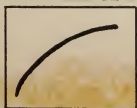
CHART-5. BAND CHART

## B. LINE CHARTS USE ARITHMETIC AND RATIO SCALES

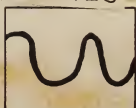
A curve can be defined as a line passing through the upper ends of the bars in a vertical bar chart. A "curve" may be broken, regular, irregular, or a straight line, as shown below:



BROKEN



REGULAR



IRREGULAR



STRAIGHT

## CURVES

These curve lines should be heavy lines connecting the various plotted points. They should not be smoothed unless it is done according to appropriate



mathematical formulae.

In addition to being easier to construct than a bar chart, the line chart possesses other advantages. It is easier for the eye to follow a line across the face of the chart than to jump from bar top to bar top, and the slope of the line connecting two points is a great aid in detecting minor changes. This is especially true when the points to plot are numerous or the increases and decreases alternate.

A curve is easily combined with several of its kind upon a single chart. Multiple curves are far better than multiple bar charts. Comparison of several series of data is greatly facilitated in curves because each set has been condensed and simplified into a single line.

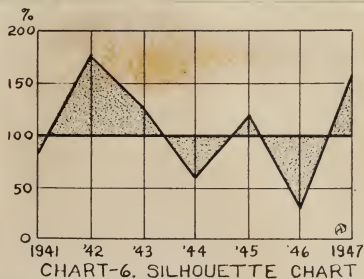
Two related but unlike items calling for different scales of figures, can be compared on one line chart. The left column of figures identifies one set of facts, and the right column the other. The base for both columns of figures should be zero.

A curve cannot always be used in the place of a bar chart, for the line which connects the various points implies that the data itself can be considered connected. While the bar chart can be used for all data, the curve chart can only be used for data of which the stubs form values or readings of a mathematician's variable. For example, a comparison of the various types of imports of raw materials to a company cannot be satisfactorily plotted on a curve.

The *SILHOUETTE CHART* is a special type of line chart in which the fluctuations from normal, variations about the 100% line, plus and minus departures, and other similar variations from a given base line can be



effectively presented. The area between the base line and the curve is filled in solid to give a silhouette appearance.



**RATIO CHARTS.** Charts with plain arithmetic amount scales are the ones most commonly seen and used. In business, however, it is usually more significant to know *percentages* of change than *amounts* of change. The ratio chart gives a true picture of comparisons in terms of percentages.

Absolute (arithmetic) scales should not be used to plot two statistical series if one series is so much greater in value than the other that the fluctuations in the smaller series are lost. Log scales can be used in this case.

On the arithmetic scale, equal vertical distances represent equal numerical differences; that is, the distance from 1 to 2 is the same as the distance from 2 to 3 and from 3 to 4. On the ratio scale, equal vertical distances represent equal percentage differences; that is, the distance from 1 to 2 is the same as the distance from 2 to 4 and from 4 to 8.

The semi-log or ratio chart shows (1) a constant rate of change as a straight line, (2) the rate of increase or decrease by the slope of the line, (3) the comparison of rates or ratios between two or more lines by means of





parallelism, or the lack of it, between these lines. The term "semi-log" is used because one scale is logarithmic and the other is arithmetic. If a semi-logarithmic chart is presented, the heading or explanation should make it perfectly clear that *ratios* or proportions *are shown*, rather than amounts.

The possible dual use of the ratio chart, namely, reading the scale figures for the quantitative amounts of any plotted points, and the vertical distances for the percentages of change between the points, has led some people to assume that the ratio chart is suited to any and every purpose. But such is not the case. The deciding factor lies in the answering to the question, "Is it the amount of change or the rate of change that we want to portray?" While the amount of change may be read off the ratio scale, the ratio chart does not present a true picture of such a change, while the arithmetical chart does.

### C. PIE CHARTS ARE FAVORITE GRAPHIC

The pie chart (pie diagram or 100% circle) probably has more purely popular appeal than any other chart. For analytical purposes it has nothing to recommend it, but for sensational values it is in general without an equal. Few readers will judge quantities by either the arc at the perimeter of the circle or the subtended angles at its center---on the contrary most of them will judge entirely by the area of the segments. The pie chart appears to be a two-dimension (area) chart used for one-dimension. This is an exception to the rule about using the least number of dimensions. Some specific points to watch are:



The chart on the left shows a geometric progression plotted on semi-log paper with an arithmetic plotting of the same material superimposed on it. The plotted points were taken from the following table.

TIME-SERIES ILLUSTRATING  
A GEOMETRIC PROGRESSION

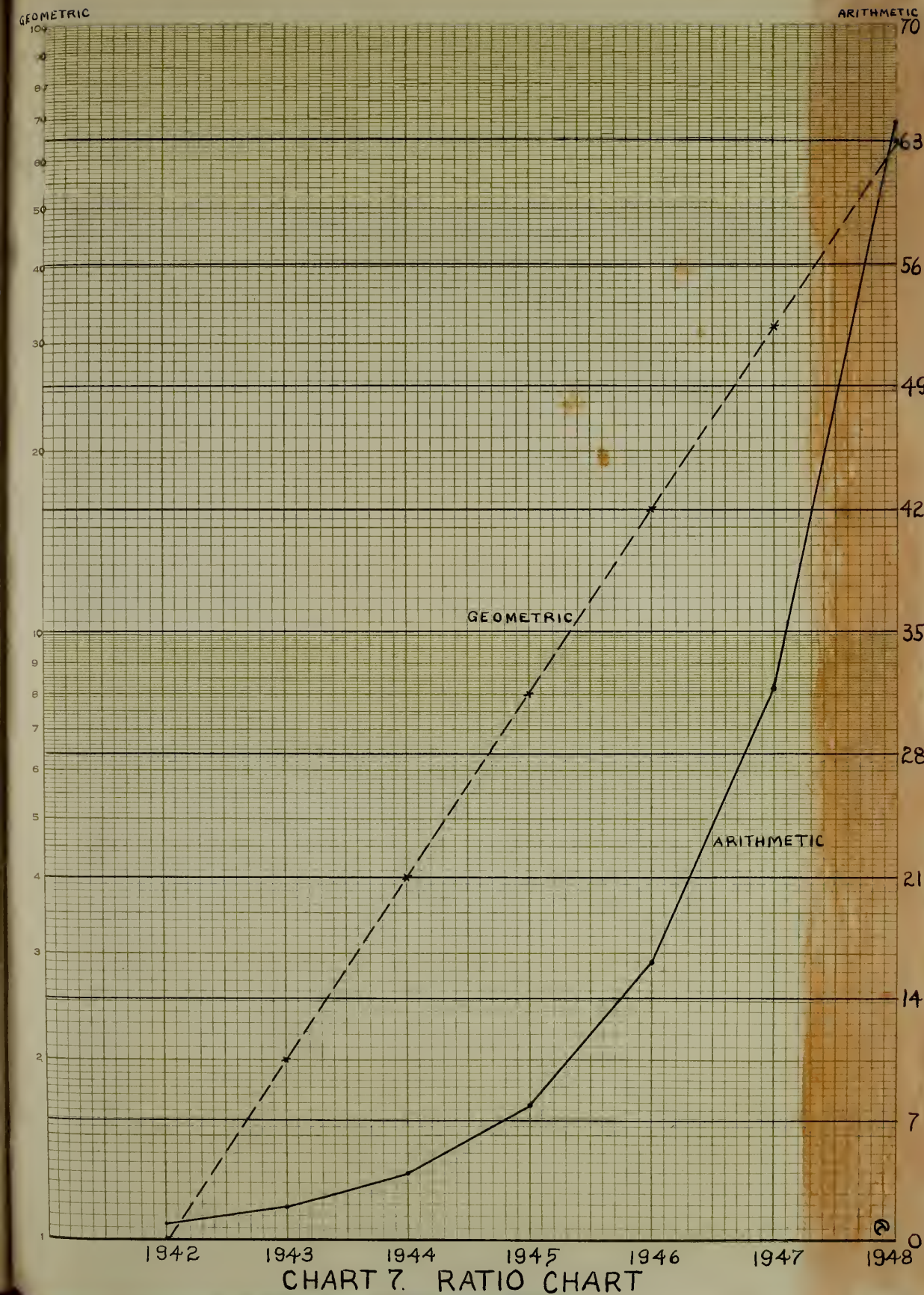
Year	Units Produced	Per cent of Increase
1942	1	---
1943	2	100
1944	4	100
1945	8	100
1946	16	100
1947	32	100
1948	64	100

As seen on the chart, a constant *rate* of change plots as a straight line on semi-log paper. However, the same data plotted on an arithmetic scale, shows an ever increasing steepness of slope.

If an arithmetic progression (2, 4, 6, 8, 10, etc.) had been plotted on the same paper, the arithmetic plottings would show as a straight line and the geometric plotting would have shown as a curve increasing at a decreasing rate.

Some applications of the use of ratio or semi-log scales are as follows:

- Comparing rates of growth when there is a great difference in size of the two series.
- Forecasting trends.
- Comparing fluctuations of large and small series.
- Comparing unlike units.



1871  
1872  
1873  
1874  
1875  
1876  
1877  
1878  
1879  
1880  
1881  
1882  
1883  
1884  
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1899  
1900



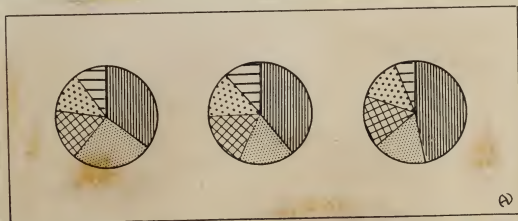


1. If only one circle is to be shown, it can be either an absolute or a 100% component pie diagram. If two or more circles are to be shown, each should be on a percentage basis for comparisons between the parts of two or more circles with varying areas are difficult (as in the case of absolute values).

2. A pie chart is not suitable for comparing breakdowns of one year with another or among a series of years, for a number of pie charts would have to be drawn to bring out the comparisons. If the diameter is kept constant, there is no visual presentation of the change in the amount represented by the circle in each of the years. If the diameter is varied to reflect the change, the extent of the increase or decrease is not obvious to the reader, because it covers a large surface.

3. Pie charts are difficult to label. Writing any numerical data in the diagram should be avoided if possible, for lettering inside the segments sometimes results in tricky optical illusions. If writing must be put in the segments, it should be enclosed in a little "window" or box.

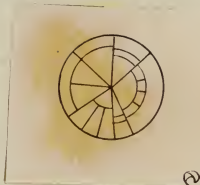
4. The order of the component parts should follow some regular pattern and should be the same in all circles. Ordinarily the largest component should be first (i.e., start at the 12:00 o'clock point) and the others should follow clockwise.





5. Hatching or shading should be from dark to light--clockwise. (See above.)

6. In the percentage pie chart there is some temptation to fall into the error which was once fairly prevalent in the construction of pie charts showing absolute amounts, especially where the component parts were numerous. The mistake of subdividing some of the sectors by means of arcs of a smaller circle is actually more confusing than the numerical data from which it was made. It is always to be avoided.



7. It is probable that 6 or 8 subdivisions represent about the maximum that can be shown satisfactorily in a pie chart.

Charts showing the distribution of the sales dollar reveal more clearly than any other single chart the results of the year's operations. The pie chart is the most satisfactory way of showing graphically the costs of doing business.

Assuming that the reports examined are typical, it was found that the majority divided the sales dollar into 6 portions:

1. Wages and Salaries.
2. Materials and Services bought from others.
3. Taxes.
4. Wear and Tear.





5. Dividends.
6. Reinvested in the business.

#### D. MAPS SHOW GEOGRAPHICAL DISTRIBUTION

There is no way of presenting geographic data in tabular form that gives a satisfactory conception of the spatial distribution of the data. Geographic data can be shown on a bar chart or a circle and sector diagram, but this result focuses attention on the comparisons of magnitudes and conceals wholly the aspect of distribution. Statistical maps are designed with the purpose of giving prominence to the spatial characteristics of the data.

Geometric measurements used for showing magnitudes (lines and angles) are not suitable for this purpose, for to use them would require, for a United States map for instance, a display of forty-eight separate bars or angles in forty-eight locations, one in each State; and the resulting figure would give an ineffective representation of the facts, little better than inserting the actual figures in each State.

Statistical maps enable the chartmaker to show the geographic location of matters of interest to stockholders and also show their quantitative importance. Such maps may be made by the use of (1) hatching, (2) varying shades of one color, and (3) dots.

The succession of light to dark hatching or shading, indicating the increase of the quantity being measured, is the outstanding advantage of statistical maps as a method of presenting data. Multi-colored maps are rarely used because progression cannot be clearly shown by the use of solid colors.



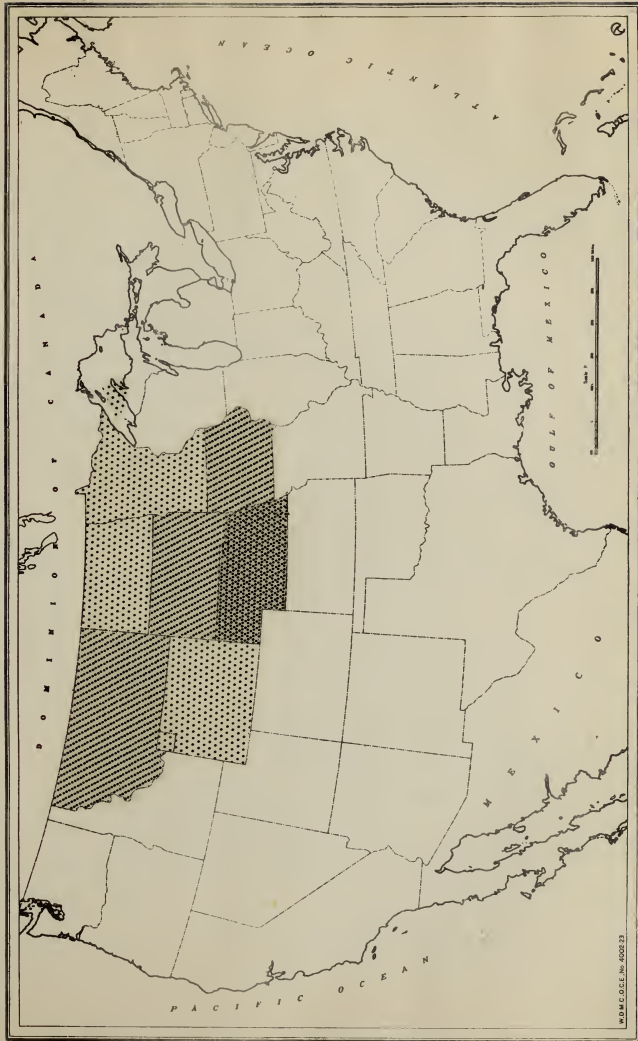


CHART 8. STATISTICAL MAP. SALES OF "MID-WEST CORPORATION."

160194



On dot maps, if one dot is set equal to a large number of items, then a few large dots can be shown in each area instead of many small dots. This permits the reader to count the number of dots, but the shading effect is lost. Where many small dots are shown a very quick visual impression of the relative density of the different areas may be obtained.

When large dots are used it is important to note whether the dot has been placed in its exact geographical position or whether the dots are distributed within a county or state irrespective of exact location.

The following is a partial list of the different uses of statistical maps as found in 1948 Annual Reports:

1. Location of plants, warehouses, stores, and subsidiaries.
2. Location of where sales were made.
3. Location of sources of raw materials used by the company.
4. Location of stockholders.
5. Territory served and power line maps.
6. Routes of planes, trains, buses, etc.

#### E. PICTORIAL CHARTS ATTRACT ATTENTION

"When faced with the problem of what method of graphic presentation to use, of whether it should be the 'pictorial' or the classic 'statistical' form (line, bar or pie charts), three things must be considered: Media, Audience, and Statistical Material to be used."<sup>1</sup>

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<sup>1</sup> Frederick Jahnel, "When To Use Pictorial Symbols", *The American Statistician*, August, 1948.



When time is limited to check the chart the pictograph is perhaps better than other methods. That is why pictographs are so effective for use in lectures, newspapers, slide films, and magazines.

The pictograph's main appeal is to those *other than* financial experts, or statisticians, i.e., people who do not understand statistical tables or other technical presentations.

If the statistical material to be presented contains either very small or very large fluctuations the pictograph is not too effective.

The chief variation between the pictograph and the bar chart is that the bar chart can indicate the diversity in subject only in its printed legend, while the pictograph expresses the subject by the character of the symbols which make up each 'bar'.

Although a more accurate visual impression may be had from a bar chart, a pictorial diagram will attract attention and is much more likely to be considered by a reader.

Some of the points to remember about pictorial charting are:

1. The danger in the use of symbols instead of lines and areas is that too much interpretation of a subjective nature can be imposed on the reader by the type of symbol used to represent the data, and by the manner in which the symbol is constructed. This danger can be minimized by constructing the symbols as mere outlines with little detail.
2. No grid lines are necessary in pictorial bar charts or pictographs. It is only necessary to state the number of units represented by each object. By spacing figures in multiple-unit bar charts it is possible to present additional information. For example, the increase in production from a base





year can be illustrated by setting apart figures representing an increase.

3. Larger quantities are shown, *not* by larger symbols, but by a greater number of symbols.

4. The value assigned to each symbol and the explanation of each symbol should be noted at the bottom of the chart.

5. Symbols should at all times be recognizable as something that can readily be identified with the subject. They must be self-explanatory.

6. A majority of symbols fall into the category of modified silhouette designs of somewhat abstract character. This type of symbol is very effective because: (a) It eliminates unnecessary detail, (b) It does not detract attention from the initial purpose of the symbols as counting units, (c) It permits combinations of once symbol expressing one object matter with another symbol expressing another, thereby creating a third symbol denoting another fact or thought.

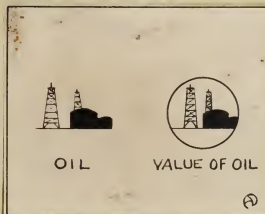
7. Multiple symbols, such as a family, should be shown as a group, one in front of the other, i.e., overlapping. The first symbol should stand alone and according to the requirement of the chart, two, three, or more symbols would be forced into a block. These symbols could overlap horizontally, vertically, or diagonally (to show depth). Though overlapping symbols distort the correct length relations, they are far superior to the method which would extend single symbols as far as the paper would permit horizontally, and then double rows underneath.

8. There is rarely a suitable common denominator for a set of statistics; therefore, pictorial statistics can not be expected to show *exact* figures but only approximate ones.



9. Only comparisons should be charted; preparing isolated statements in chart form is not true charting.

10. To present values, pictorial statistics make use of a device developed by Dr. Otto Neurath. Borrowing from the disc form of coins values of things are expressed by placing the symbol of the thing on a coin. Thus it is possible to differentiate the thing as such (oil) from its value (oil symbol on a disc).



11. It is possible to retain the attention value of the pictorial diagram and yet secure the accuracy obtained in the reading of a one-dimension diagram by stacking like-sized bags of money, for example, on top of each other and have the top of the last bag reach the scale line of the value it represents.

12. As it is hard to count every single symbol when there are more than five it is frequently advisable to group a number of symbols together as a "block". *Extra spacing* is introduced after each block of symbols so that the symbols may be counted as blocks rather than as units.

13. The smallest fraction that can be shown with visual effectiveness is one-half a symbol.

14. For stockholders who want to get the actual data underlying the chart (by multiplying the number of symbols by the figure each symbol indicates)



this figure must be given. The best way is to write "each symbol represent so many people (or tons, or bales, or gallons, etc.)". It is best not to reproduce the symbol in the legend if the legend is left inside the chart.

15. No chart, except simple breakdowns should have less than two rows of symbols, and only rarely less than three or more than six.

16. The number of wide symbols (boats, for instance) should not be more than ten to twelve per row; the number of narrow symbols (men) should not be more than twenty-five to thirty.

17. A chief disadvantage of the symbols is that they haven't changed very often and become stock figures. They must be varied occasionally.

18. The *explanatory picture* is an *addition* to the chart. It should not interfere with the symbols---vital parts of the chart. The explanatory pictures serve only to indicate the field to which they symbols apply, or to explain some of the qualifications. Explanatory pictures may be used on any type of chart provided they do not interfere with the necessary components of the chart.

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The references for the guides set forth in this chapter are the same as those listed at the end of chapter IV.



## CHAPTER VI

### PHOTOGRAPHS, SKETCHES, AND CARTOONS LIVEN UP THE REPORT

#### A. PHOTOGRAPHS LEND AUTHENTICITY

*"The most striking general conclusion to be drawn from the study was the importance of related illustrations in raising readership of adjoining text."*<sup>1</sup>

A picture is more universally understood than a word description. Photographs go one further than drawings, for ordinarily they carry a degree of authenticity that is impossible to achieve in a drawing. If the scenes shown are familiar to some of the readers, so much the better. Photographs give life to facts and, when well handled, often may mean the difference between a report that is read and one that is not.

As pointed out previously, any pictures used in the report should be truly illustrative of the narrative or statistics of the report. A hit-and-miss insertion of photographs is not appealing and accomplishes little. It is also a mistake when a good picture is used with no explanation in the text. Mr. Lewis D. Gilbert recently stated: "Certainly make the report simple and illustrative, but at the same time do not forget we also want THE FACTS BEHIND THE PICTURES."<sup>2</sup>

Stockholders should be shown what the products look like, how they are made, where and how they are used, etc. Photos are especially valuable when they can highlight such things as acquisitions of new plants, expenditures for new machinery, and progress in research facilities. These items show

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<sup>1</sup> Bruce Watson, "What One Company Learned About Its Stockholders", *Advertising & Selling*, March, 1948.

<sup>2</sup> Lewis D. and John Gilbert, *Ninth Annual Report of Stockholder Activities at Corporation Meetings* (New York: Private bulletin, 1949).





up in the balance sheet and the president may mention them in his message, but it takes the photographs to give the stockholder a vivid idea of what has been accomplished.

One possibility that has not been exploited in the use of "exploded-views" to show exactly how a product is made up and put together. Limited use of this technique would probably be quite interesting to the men and even a few women might be interested.

A 50-ton crane lifting a load of steel girders, sparks flying off a grinding wheel, the glare of the blast furnace, orderly rows of machines, the factory going full tilt at night, all have their appeal; but to obtain the maximum amount of appeal *people* must ordinarily be included in these scenes. At least, people should figure prominently in a proportion of the illustrations in an Annual Report. People preparing the raw materials, people at work in the shops, and people using the products, are the type of photograph that help humanize the report.

An important fact to remember when preparing an Annual Report is that current statistics indicate that 58 per cent of the stock held by 13,000,000 people in the United States is held by women.<sup>3</sup> This is particularly important when considering photographs, for according to one authority practically all women will study photographs and the accompanying captions in Annual Reports. Here is an opportunity for companies to plant their significant points of information by way of a two or three line message in the caption for quick assimilation.<sup>4</sup>

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<sup>3</sup> Rex F. Herlow and Marvin M. Black, *Practical Public Relations* (New York: Harper & Brothers Publishers, 1947), p. 99.

<sup>4</sup> Weston Smith, "Annual Reports Win Industry Oscars", *American Gas Association Monthly*, Vol. 30, No. 10 (October, 1948), p. 8.



The fact that photographs are so authentic makes them less desirable than pictograph symbols for use in bar charts. The reason is that they designate a particular person or thing and are not a representation of a group as are pictorial symbols.

Another one of the few limitations on the use of photographs is the case of superimposing a bar chart upon a photograph. This effective way of *animating* the chart is accomplished by superimposing it on a faint photographic background related to the item charted. But care should be taken to choose a picture which does not have smokestacks or other vertical projections that might distract the attention from the bar for the eye automatically compares heights. There is the danger, too, that if the chart contains printed matter, the print will be hard to read.

A survey of 150 of the 1948 Annual Reports showed that the following subjects were used for photographs:

1. Additions to plants
2. "Before" and "after" pictures of phases of the company's operations.
3. Bird's eye view of properties.
4. Counter displays.
5. Community pictures.
6. Directors and officers, by group and as individuals.
7. Employees, both as groups and as individuals.
8. Stockholders, Members of the Board of Directors and Company officers at the Annual meeting.
9. Employee's day at work.
10. Laboratory scenes.



11. Machinery and equipment.
12. Materials used in production and where they came from.
13. Products in use.
14. Research and testing equipment.
15. Distribution outlets, branches.

#### B. CARTOONS, WHEN USED, SHOULD BE PERTINENT

The use of cartoons by themselves, i.e., not in connection with some type of graphic, is a delicate matter. Cartoons whose sole purpose is to provide some humor unrelated to the copy have no place in the Annual Report. When they are especially prepared for one type of business and are definitely pertinent to the narrative, cartoons can be used to advantage in limited quantities.

Probably the best current example is the 1948 report of the Girard Trust Company. They commissioned Helen Hokinson to prepare the cartoons specifically for use in the Annual Report. Each of the cartoons was depicted in a genuine Girard setting. Everything except the people in them was exactly as found in the offices. The subjects dealt with were limited to humorous incidents that might occur in a trust company.

Cartoons used in combination with the text, such as "Reddy Kilowatt" mentioned previously, have proven quite effective. When humorous "little men" are used in connection with charts, they should not interfere with the ease of reading the chart nor distract the reader from the main facts. Such techniques as showing a man adding a penny to a pile, or of a lumberjack sawing off the top of a three-dimensional bar to indicate a decrease of some sort, may be used with caution.



### C. SKETCHES HELP VISUALIZE FUTURE PLANS

Sketches or drawings stimulate reading of the Annual Report, but, like photographs, they should show only items of first-rank importance. Insofar as possible they should be next to the narrative they illustrate. Above all, the sketch, its caption if any, and the text should all be woven into a homogeneous pattern.

The chief use of a sketch is to show something that is proposed---the way something should look when it is completed in the future. Naturally, photographs are impossible in this case, unless they are taken of models, and this type of photo is not as effective as a drawing. These sketches give the stockholder an idea of what his money is being used for.

In addition to showing contemplated construction, sketches can depict: (1) The structural diagram of a product; (2) The manufacturing process---how raw materials flow through the plant to become finished products; (3) The evolution of a product; and (4) Company trademarks, labels, and slogans (if hand lettered).

Little thumbnail sketches in the borders of the report put a spark of life into the page and prevent the monotony of a page of solid type.

A word of warning is found in *Barrons* for March 24, 1947: "*Commonplace* now are the little figures which coast down hill on sales charts and then strive manfully upward and onward when sales trends improve."





## CHAPTER VII

### COLOR AND WHITE SPACE EMPHASIZE VITAL INFORMATION

#### A. A COLOR SCHEME BRIGHTENS THE REPORT

Color unquestionably *peps up* the Annual Report. In charts and graphs, color can bring out comparisons and differences more vividly than can black and white. Color photos make the report more dramatic. Product labels in color shown in the Annual Report help bring the brand name to the mind of the reader when he is shopping.

A definite color scheme in the report lends an overall unity to the report. In this case, a single color to carry the theme is perhaps more effective than several colors, as well as being much less expensive. This scheme need not have any *direct* connection with the company, but it is desirable. Some examples found in the 1948 Reports are:

*The Welch Grape Juice Company*---Purple, for the color of grapes.

*Socony-Vacuum Oil Company, Inc.*---Red, for the color of its trade mark.

*Florida Power Corporation*---Orange, because they were plugging the climate and citrus of Florida.

*American Woolen Company*---Brown, because the color of the cloth shown on the cover was brown.

*Girard Trust Company*---Orange. Although this color had no apparent significance, vertical orange borders served as a place to put bits of high-lighted information and also to "pick-up" interest in the entire report.

In summation, it can be said that extra color has two main functions:

(1) as a decorative medium to make the report more attractive to the reader;



(2) as a means of portraying more clearly to the reader certain facts in charts, graphs, and maps.

#### B. COLOR SHADINGS SHOW VARIATIONS

Colors are extremely efficient in charts and graphs because solid colors are more forceful than black and white. Care must be taken however, to see that the various items are emphasized by use of corresponding light and dark shades, for, while there is no progression in solid colors, variations in magnitude can be shown by variations in shade. The darker the shade becomes, the greater is the "quantity" represented. Blue does not indicate a greater or smaller quantity than orange, but a *bright* blue might be taken to mean a larger quantity than a *light* orange.

However, a solid black area will appear to be larger than a solid white one outlined in black, though they are both of the same size, for the black is in itself more powerful than the white, and has further gained by absorbing its black outlines.

In maps, various colors may be used to denote different concentrations or quantities of items in different localities, provided an appropriate legend accompanies the map. Shaded maps, working on the same principle of cross-hatched maps (density of cross lines), show quantity distributions in a more clear-cut manner than do several solid colors. A shading of one color requires only one press run, while several solid colors ordinarily require as many runs as there are colors. Needless to say, the cost goes up with each run of the press.



### C. COLORS HAVE PSYCHOLOGICAL VALUES

Every color produces a psychological effect of its own. These effects may vary slightly with the individual, but in general they are the same.

Mr. Otto Kleppner takes cognizance of this in his book!

*We associate red with blood, heat, and danger; yellow with light and sunshine; blue with coldness and calmness. These are the primary colors. Mix them and you get the secondary colors: red and yellow give orange-- a mixture of heat and light, such as fire; yellow and blue give green--pleasant because it combines sunshine and calmness; the fiery red and the cold blue give purple--mystical, impetuous, royal. Variation of these colors, in either hue or intensity or value give the more subtle effects.*<sup>1</sup>

Mr. A. H. Munsell divides colors into warm and cool colors:

*Warm Colors:* Red-Purple, Red, Yellow-Red, Yellow.

*Cool Colors:* Green, Blue-Green, Blue, Purple-Blue.<sup>2</sup>

The theme will usually determine whether a color from the warm or the cool group should be used in the report.

Symbols can be reproduced in the color native to the objects they represent. Also, certain groups may have a color to represent them for instance, green for agriculture, forestry, greenbacks, Blue for government, fisheries; Black for assets, mining; Red for debts or losses, war, industry; Yellow for gold, grain; Purple for royalty; and Gray for miscellaneous or unimportant items.

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<sup>1</sup> Otto Kleppner, *Advertising Procedure* (New York: Prentice-Hall, Inc., 1946--- Third Edition), p. 18.

<sup>2</sup> A. H. Munsell, *Munsell Book of Color* (Baltimore: Munsell Color Company, Inc., 1929), p. 38.



Other things being equal, artistic effects are always desirable, but never to the point where they distract the reader from the facts of the chart. Accountants use *red* to show debts or losses---anything of a negative significance. This contrasts well with *black* which is used to denote assets or favorable factors. If red were used to indicate increases on a line chart for example, and black to show decreases, accountants would hit the ceiling and other readers might be somewhat perplexed.

Mr. F. K. Berrien mentions certain color combinations which are easily read when in print and consequently more desirable than other combinations. He remarks:

*A number of studies have indicated that the best contrast and consequently the highest degree of legibility among color combinations are, in order of their legibility:*

- |                    |                              |
|--------------------|------------------------------|
| 1. Black on Yellow | 8. Green on White            |
| 2. Black on White  | 9. Red on White              |
| 3. Yellow on Black | 10. Red on Yellow            |
| 4. White on Black  | 11. White on Red             |
| 5. Blue on White   | 12. Red on Green             |
| 6. White on Blue   | 13. Green on Red             |
| 7. White on Green  | 14. Blue on Red <sup>4</sup> |

#### D. COLORS CAN'T DO EVERYTHING

Bright, splashy colors will *not* cover up for the lack of information which the stockholder is entitled to. Though color is most often desirable in an Annual Report, it is not a requirement. Using it without a real purpose is a mistake, and a costly one at that.

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<sup>4</sup> F. K. Berrien, *Practical Psychology* (New York: The Macmillan company, 1946), p. 369.





While the discreet use of color can make the modern Annual Report more interesting, excessive use can distort the report by making it look like a sales catalog or picture magazine. The purpose of color is to illustrate the facts and figures in a manner that will attract and hold attention.

The use of color should be on the conservative side in order to avoid the impression of being grandiose. When selecting a second color (i.e., in addition to the black), the tone of pastel shades that will result from tint blocks of various screens must be considered, for some of them can be quite unattractive.

In preparing a chart in two or more colors, it should be kept in mind that strongly contrasting or complementary colors, repeated in equal quantities, are confusing and hard on the eyes.

#### E. WHITE SPACE IS BREATHING SPACE

One simple, mechanical way of gaining greater attention for a chart is through the use of a certain amount of isolation or white space. H. F. Brandt recently found that spaces in which 75 per cent was occupied by a photograph or chart and 25 per cent by a white border, had greater attention value than those with 0 per cent, 50 percent, or 75 per cent white space.<sup>5</sup>

The white space on the chart is as essential to the meaning as the bars or rows of symbols.<sup>6</sup> If there is more white space at the end of each

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<sup>5</sup> Berrien, *op. cit.*, p. 365.

<sup>6</sup> Rudolph Modley, *How To Use Pictorial Statistics* (New York: Harper and Brothers, 1937), p. 20.



successive line, it is clear that there are fewer units of the subject being presented. And because of the importance of the white space the graph should be in a regular rectangular space rather than in some artistically irregular space.

White space in graphs should be left as such and not filled with lettering or sketches added for the sake of artistic balance. While one small sketch might add to the graph, several would take away the important breathing space afforded by the white area. Also, the uncrowded appearance adds considerably to the dignity of the presentation.

Space is valuable and so the scale of a chart is a prime factor in determining the amount of white space that will be allowable for the chart.



## CHAPTER VIII

### GRAPHICS HAVE DISADVANTAGES TOO

#### A. SOME LIMITATIONS PERTAIN TO ALL MEDIA

Like any other medium of communication, graphics has its own limitations, as well as some that are common to all media. Some of the general limitations of graphic presentation are:

1. People can normally absorb only one idea at a time. Therefore, charts and graphs should be limited to one comparison each or at most three.
2. Individuals tend to resist ideas that do not deal with their own problems. While any and all of the problems of his company may be construed to be problems of the stockholder, most stockholders are interested in only certain types of information. The company should attempt to determine just what its stockholders are interested in.
3. Most people can nor or will not accept complicated, abstract, or vague ideas. Simplicity should be the keynote in presenting financial data to the average stockholder.
4. People accept ideas slowly, or are quite apt to forget them easily if once accepted. If they can be reminded, in different ways, and in a subtle manner, of the vital portions of the Annual Report, there is a better chance that these facts will stick.
5. Time is one of the most precious commodities that people have. Many things contend for the individual's attention. While the busy person will read a simple, un-ambiguous Annual Report, a complicated report might go unheeded.



Annual Reports should be prepared with a "middle of the road" attitude with regard to the use of graphics. Straying too far to either side is dangerous. The Griswolds warn: "One of the chief obstacles in the path of better annual reporting is that the job is so heavily weighted on the statistical side, neither management nor stockholders can see the story for the figures."<sup>1</sup> On the other side, Mr. Walter E. Weld points out: "Care should be exercised not to let a newly born zeal for graphic presentation lead to a waste of time and money in the charting of data which, while possibly of some interest, are of relatively minor importance."<sup>2</sup>

#### B. CHARTS HAVE SPECIFIC RESTRICTION

While a chart is usually more appealing and more easily understood than a table, there are instances when a table is superior to a chart as a means of presenting statistical data. A table is preferred when:

- (1) Several *sets* of facts must be shown.
- (2) Exact values or precise quantities are necessary.
- (3) The time allowed to prepare the information is limited.

Pictorial graphics have some specific limitations of their own. In the first place, they usually require more space than words or figures, though they are more economical in space use than are photographs. The following should *not* be shown by pictographs:

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<sup>1</sup> Glenn Griswold and Denny Griswold, co-editors, *Your Public Relations* (New York: Funk & Wagnalls Company, 1948), p. 216.

<sup>2</sup> Walter E. Weld, *How To Chart Facts From Figures With Graphs* (Norwood, Massachusetts: Cordex Book Company, Inc., 1947), p. 123.





(1) Abstract subjects, such as "Volumetric Efficiency of Pumps."

(2) Very large changes; i.e., a wide variation in the quantities presented.

(3) Very small changes; for example, only a 2 or 3 per cent change over a period of several years.

(4) Too many changes.

Adept chartmakers can play tricks with certain information by making use of *optical illusions*. Charts can be drawn so as to create optical illusions or to create erroneous impressions which may lead the reader to unwarranted conclusions. This can be done while the information portrayed is *factually* true. Mr. J. Silberman, of the Pick-S chartmaking company, said with regard to three dimension charts: "Vanishing points in three dimension charts can be altered so that you can *almost* reverse the results."

As mentioned previously, some chartmakers believe that practices of exaggerating one of the scales or employing perspective is desirable. However, while this may make the charts appear clearer, many chartmakers believe that it is a mistaken impression that exaggerated charts are better than a straight presentation. It is easy to detect these practices and once discovered, will cause the reader to lose confidence in the company. If exaggerated scales are used, some type of explanatory material should accompany the chart.

In addition to optical illusions, Miss Lillian Doris lists seven factors that may cause a chart to fail to be effective:

(1) Too complicated.

(2) Too little variation.



(3) Not legible; too crowded.

(4) Figures not well indicated; scale missing.

(5) Labeling incomplete; all pertinent information not present.

(6) Appearance uninteresting; this may be remedied by adding symbols or other illustrations to humanize the chart.

(7) Type too small.<sup>3</sup>

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<sup>3</sup> Lillian Doris, *Modern Corporate Reports* (New York: Prentice-Hall, Inc., 1948), pp. 210-211.



## CHAPTER IX

### AN ANALYSIS OF THE GRAPHIC REPRESENTATION FOUND IN FIFTY SELECTED 1948 ANNUAL REPORTS

Originally, one hundred and fifty of the several thousand Annual Reports prepared in 1948 by United States firms were selected for this analysis. This list of corporations was compiled from suggestions of authorities in the field of annual reporting. Fifty reports were culled from the first group, either because they contained a comparative wealth of well-prepared graphics, or because they illustrated one specific type of graphic to best advantage.

1. The most popular size report in this study contained twenty four pages. From all indications, this was a sufficient number of pages to carry the company's message, provided *interim reports* had been sent out during the year.

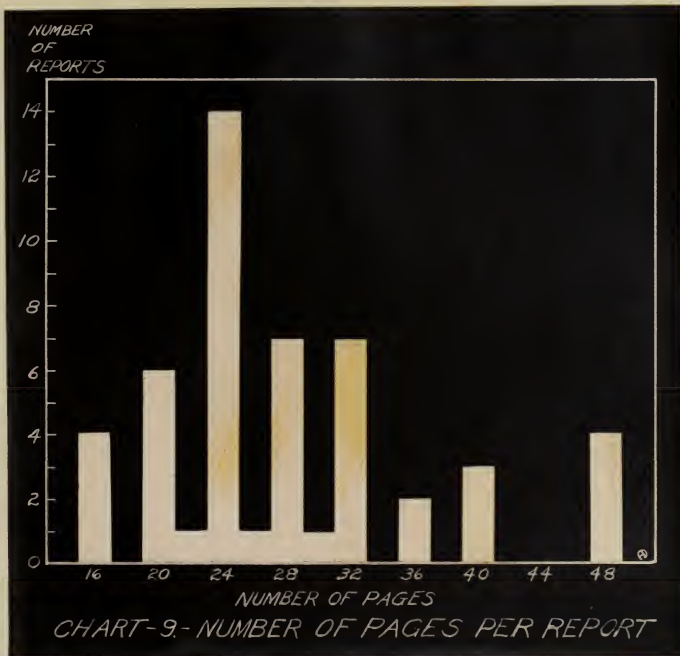
Some of the reports had a greater number of pages than the average because of special anniversary supplements. Sixteen pages for the Annual Report seemed a bit skimpy in some cases, while in others sixteen pages were adequate.

It is hard to understand why three odd sizes (22, 26, and 30 pages) were used. In most cases it would have cost very little more to add two extra pages and give a conventional sized report, for numbers other than even multiples of four require special handling by the printer.

The total number of pages in each report by frequency (exclusive of



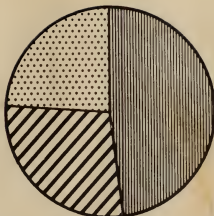
all four covers) was:



2. The judges of the *FINANCIAL WORLD* Oscars for the best Annual Report think that there should be about 50% graphics and 50% narrative in the Annual Report. On this basis







||||| % HAVING CORRECT AMOUNT

/// % HAVING LESS GRAPHICS

.... % HAVING MORE GRAPHICS

CHART-10 USES OF GRAPHICS

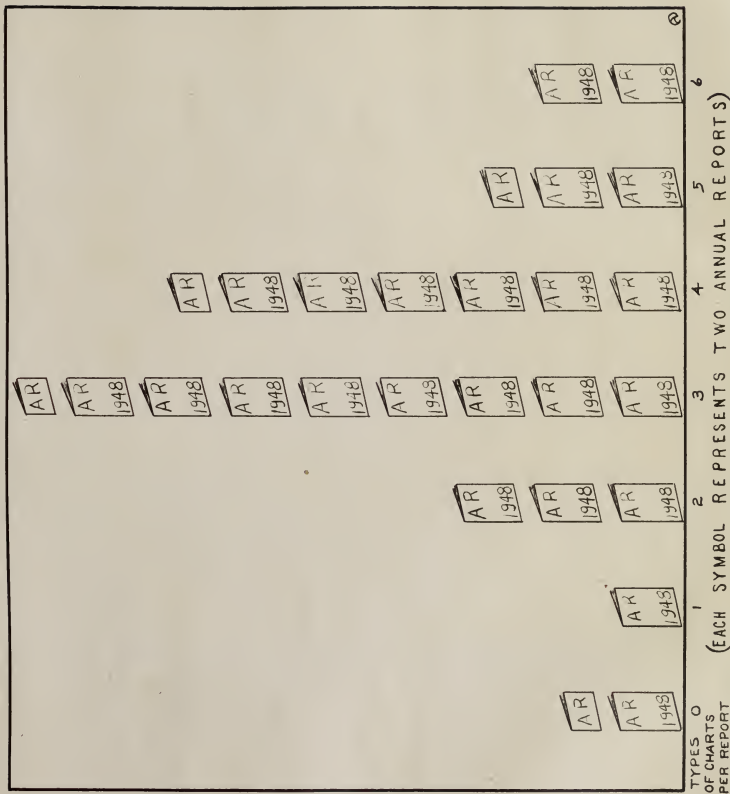
This might indicate that those company reports with more than the desired amount of graphics would do well to include more graphics in interim reports or to prepare a special graphic supplement for issue at a later date.

3. The pictograph on the following page shows that three different types of charts and graphs per report was the most prevalent variety used. Second in frequency was four different types of charts and graphs per report. The reports that contained six different types of charts and graphs were large enough to warrant this diversity in presentation.

It might be well to point out here that an *isolated fact* charted is not considered as a chart or graph in this study. To be considered as a chart or graph there must be some basis of *comparison* between two or more facts or sets of facts.

4. The number of graphs per report varied from a total absence of this type of presentation to twenty in one report. The number of charts and graphs found most often was four, which were found in ten reports.





TYPES OF CHARTS  
PER REPORT



TABLE 1  
NUMBER OF CHARTS AND  
GRAPHS PER REPORT BY  
FREQUENCY.

Number of Charts & Graphs	Number of Reports
20	1
14	3
13	1
11	1
10	2
9	4
8	3
7	2
6	6
5	8
4	10
3	4
2	2
0	3

5. The most popular type of graph or chart was the bar. There were 135 different bar charts. However, when these were subdivided into the different types of bar charts, the line graph was the most numerous. The vertical bar (with components) was second in the number of appearances.

It is interesting to note that while percentage comparisons are often more accurate, they are more difficult for the average reader to comprehend. Most chartmakers have conformed with the "wish" and the capabilities of their publics and have presented a preponderance of their charts in absolute rather than relative values.

The total number of each kind of chart was:



77 LINE	8 SIMPLE HORIZONTAL BAR
39 COMPONENT VERTICAL BAR	5 COMPONENT HORIZONTAL BAR
37 SIMPLE VERTICAL BAR	4 COMPOUND COMPONENT BAR
34 PICTOGRAPH	4 TWO-WAY BAR
13 COMPOUND VERTICAL BAR	3 BAR & LINE
12 3-DIMENSION PIE	3 3-DIMENSION COMPONENT BAR
11 BAND CHART	2 COMPOUND HORIZONTAL BAR
11 STATISTICAL MAP	1 COSMOGRAPH
11 3-DIMENSION BAR	1 SILHOUETTE
10 PIE CHART	1 STEP DIAGRAM
8 3-DIMENSION COMPOUND BAR	

TABLE 2

6. Quite a varied number of years were used as a basis for comparison of data. Other than charts showing data just for the fiscal year completed, charts covering a period of *ten years* were by far the most popular. Ten years is considered by most chartmakers to be about the right number of years to show what the current trend is. Comparisons for periods of more than twenty five years are usually used to indicate the strength of the company, while short comparisons show what has happened since the war. Many companies wisely indicate in diverse ways that the activity during the war years was abnormal and should be given special consideration. The tabulation, in order of frequency, is as follows:

TABLE 3. NUMBER OF YEARS USED FOR COMPARISONS IN CHARTS

Number of Years	Number of charts	Number of Years	Number of charts
47	1	13	1
40	1	12	1
27	1	11	7
26	2	10	91
25	2	9	16
23	1	8	13
21	3	7	9
20	8	6	1
19	1	5	11
17	2	4	9
15	14	3	34
14	3	2	7





7. As the reports used in this analysis were some of the better reports for 1948, not all the principles or specific guides discussed were violated. Undoubtedly, if average or poorer Annual Reports had been used, all the rules listed plus others would have been violated.

The list of the fifty reports used can be found in the acknowledgements.

The principle most frequently violated in this set of reports was Principle O (FIGURES SHOULD NOT BE PLACED CLOSE TO THE BARS OR COLUMNS OF FIGURES). As mentioned previously, this often results in optical illusions that are detrimental to the creation of the proper impression in the mind of the reader.

The table below lists the principle or with the total number of times it was violated in all fifty reports.

TABLE 4. VIOLATIONS OF PRINCIPLES

PRINCIPLE VIOLATED	NUMBER OF VIOLATIONS
O Figures should not be placed close to the bars.	86
F Lettering should be horizontal on charts and graphs.	41
N Each unit of amount scale should equal unit of time scale.	37
I A minimum amount of grid lines should be shown.	22
K Scale representations should be kept small.	21
J Show the zero line.	18
S Do not use more dimensions than are necessary.	17
Q Enclose legend in box if it appears in the grid of the chart.	14
R Darker shadings and cross-hatchings should be near to zero line	13
L Dates on the horizontal scale should be labeled properly.	12
E The source of info should be shown if other than company date.	11
C Charts should be near text they depict.	11
M Data should be arranged from earliest to latest, left to right.	7
B There should not be a preponderance of any one type of graphic.	7
D Graphs and charts should be simple.	6
P Curves should be distinguished from each other.	3
G Type faces should be limited to three in one chart.	2



Notes on the other violations after principle O are as follows.

a. Because of space limitations it is not always expedient to have all horizontal lettering on the charts. This was taken into account when judging violations of Principle F. (LETTERING SHOULD BE HORIZONTAL). However, in many cases the lettering could have been horizontal and was not.

b. It is extremely difficult to judge violations of Principle N (EACH DIVISION OF THE AMOUNT SCALE SHOULD APPROXIMATELY EQUAL EACH DIVISION OF THE TIME SCALE). One reason is that in order not to show too many grid lines every other one may have been omitted, giving a different impression of the value of the scales. Some charts have been distorted purposely to emphasize a particular point. This practice is held in disfavor by some chartmakers, while others justify it on the grounds that the facts are the same and that it is simply an attempt to make the differences clear by enlarging one of the scales.

c. The chief mistake under Principle I (A MINIMUM AMOUNT OF GRID LINES SHOULD BE SHOWN), was that grid lines were drawn through the bars. This is warranted when the "blocks" are used as counting units, otherwise it is not.

d. In most of the reports the scale representations were kept small, in accordance with Principle K, but still the total violations of this Principle was high because several chartmakers must have been trying to impress the stockholders with formidable figures.

e. There is no excuse for violations of Principle J (SHOW THE ZERO LINE) because standard practice has made provisions to break the scale should this be necessary. As this rule becomes better known, failure to



follow<sup>it</sup> might well be classified as an ignorant or deliberate distortion of the facts.

f. Using 3 dimensions is perfectly acceptable in a great number of cases. Nevertheless, using area or volume diagrams when a one-dimension diagram would actually do a better job has to be classed as an infraction of Principle S.

g. Failure to heed Principle Q is not a major violation; it is just one of the things that prevents the chart from portraying its message in the clearest way possible.

h. Placing darker shades of colors or hatchings on the top of a bar makes the bar appear top heavy. In addition, it can often lead to an optical illusion, thus giving the reader an incorrect visual image of the facts.

i. Under Principle L, the major offense was showing uneven periods of time between the bars by equal spaces. For example, a bar for 1941 might be shown equally spaced from 1947 as 1947 is from 1948. Since this tends to distort the time perspective, a little larger space between the 1941 and 1947 bars would have helped clarify the picture.

j. While omitting the source of outside data (other than from company figures) does not change the chart, it is a failure to take consideration of those people who might desire to make further research on the subject, to give credit, to provide an easy means of checking, etc.

k. Layouts of Annual Reports are influenced by many factors, such as: amount of money allotted for the report, how much narrative *must* be included, the whims of higher officers, the total number of pages, etc. This will naturally have a considerable bearing on the location of each chart and graph.



However, if there is enough room to devote two pages to a "chart page" this material could probably have been interspersed in with the text as it should have been in the first place.

l. Altering the normal chronological order of data is annoying to most readers. This Principle M (CHRONOLOGICAL ORDER FOR DATA SHOULD BE FROM THE EARLIEST TO THE LATEST, LEFT TO RIGHT) is equally true when applied to the listing of data in statistical tables.

m. When only one type of graphic appears in an Annual Report both the graphics and the report tend to become very monotonous. In all cases of this violation, some of the information could have been profitably charted by another type of chart.

n. Some difficult graphs could easily have been broken down into two or three simple graphs. The reader will have more faith in the company if he can understand the facts presented.

o. The great majority of the reports used in this study clearly distinguished the various curves from each other in accordance with Principle P.

p. Only one report employed more than three type faces. This led to a slight distraction from the information in the graph.

The specific rules were not violated often in the selected reports. Only one horizontal bar chart had the order of the dates reversed. Several of the component bars did not have the largest division on the bottom--- again making the bar top-heavy.

Most often violated of the pie chart rules was the failure to follow any order in the arrangement of the segments of the circle by size. The relative size of each of the slices is easier to judge when the slices are





arranged in order of magnitude. One pie chart had more than eight subdivisions, while several failed to have a definite starting place for the various segments. Failure to put information inside the segments in a "window" is just another inconvenience to the reader.

The statistical maps were generally well presented. A few could have had a better means of identifying larger concentrations, such as using a darker shade of one color rather than a different color.

Pictographs, by their very nature, are often deceiving because of the visual impression of the third dimension. The greatest number of infractionctions come under the heading of failing to "break up" long rows of symbols by the use of the "block" system.

Second in the number of "errors" in pictographs was the cardinal sin of using *larger* symbols instead of a *greater number* of symbols. The rule is still considered broken when a grid is used and it is obvious that the height is the only implied means of measuring. The eyes can not be told just to disregard two of the three dimensions.

The larger symbols may be divided into more than two parts and still remain perfectly clear as to the amount of the division. This can seldom be done with small symbols and therefore must be called a fault in charting.

In summation, there was a total of 421 violations of all types; broken down into 328 violation of Principles and 93 violations of specific rules for different charts. This gives an average of 9 violations of all types per report; broken down into 7 violations of Principles and 2 violations of specific rules.

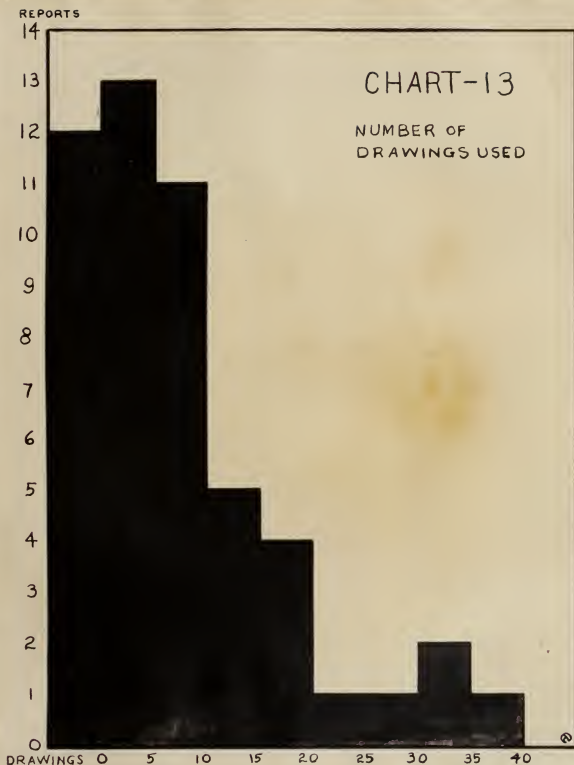


8. About half of the fifty reports used maps of one sort or another. Only five reports contained two maps. Most of the maps were presented in color. Especially effective were maps with the important sections raised or shown in three dimensions while the remainder of the map was shown in the conventional two dimensions. The bar chart below shows the number of maps each report contained.



9. Drawings were rather prevalent in the reports. The majority were little thumbnail sketches used principally to add interest and to make the report more attractive. The sketches used in charts and graphs were *not* included in the tabulations. The Step Diagram below shows the frequency of occurrence of sketches in the selected Annual Reports.





10. Tables of Statistics, other than the financial statements, were used in small quantities. In approximately 60% of the cases the data could probably have been better presented graphically. The remainder were clearer in tabular form than they would have been in graphic form.



TABLE 5. USE OF TABLES OF STATISTICS

Number of Tables	Number of Reports
0	18
1-to-3	19
4-to-6	8
7-to-10	4
11+	1

11. The great majority of the reports used only black-and-white photographs or black-and-white photographs printed in a single color ink. Several of the eleven reports that had more than thirty black-and-white photographs seemed to have *too many pictures*, thus detracting from the effectiveness of the report. A special pictorial supplement might have alleviated this trouble.

Vitality is injected into the report when the background is removed from photographs of people. The resulting added white space makes the silhouettes of the people "stand out". Several reports used this practice to advantage.

Distribution of the number of black-and-white photographs per report was:

TABLE 6. USE OF B&amp;W PHOTOS

Number of B&W Photos	Number of Reports
0	6
1-10	17
11-20	11
21-30	5
30+	11





Ten reports had from one-to-five photographs and seven reports had from six-to-ten photographs.

It is interesting to note that forty-one of the reports (82%) had no color photographs, while

4 reports had 1 color photograph  
 2 reports had 2 color photographs  
 1 report had 6 color photographs  
 1 report had 7 color photographs  
 1 report had 75 color photographs

The report containing 75 color photographs was in two parts, a financial information part and a special pictorial supplement that contained all of the 75 beautiful color photographs.

It is rather ironic that a number of reports had exquisite color photographs on the covers, yet dull, listless color schemes within the reports.

A suggested use of color photos and color for Annual Report is:

- a. Full color photographs or drawings for *all four covers* of the report.
- b. Black-and-white photographs only for the inside report. These photos might be placed within a *border* of some shade of the scheme color.
- c. Different colors for charts and graphs.

The distribution of both black-and-white and color photographs in the fifty selected Annual Reports was:

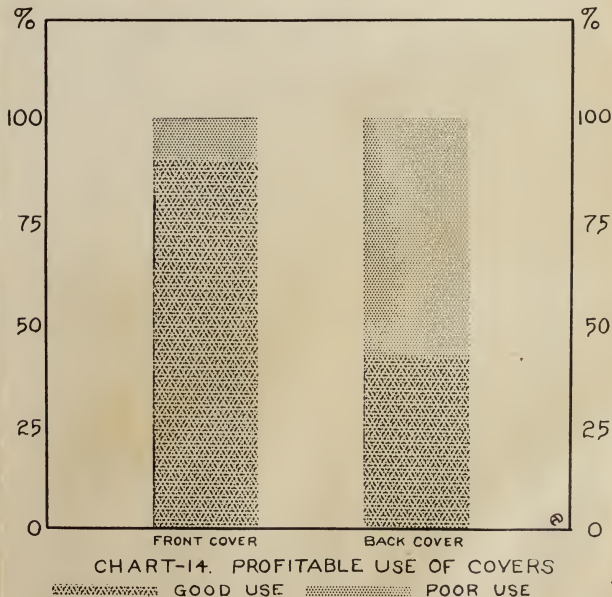
TABLE 7. USE OF PHOTOGRAPHS.

Number of Photos	Number of Reports
0	3
1-10	18
11-20	11
21-30	6
31-40	3
40+	9



Eleven reports had from one-to-five photographs and seven reports had from six-to-ten photographs.

12. Only five of the fifty reports did not make good use of the front cover, i.e., did not present something other than the name of the company, the name of the report, and the date. But, twenty-nine of the fifty reports did not fully utilize the back cover, i.e., the covers were left blank, had just a small picture, or had writing only. The two component bars below show graphically the advantageous use of the covers as found in this study.





13. All but one of the reports had a definite color scheme which was carried throughout the report. A good many of the reports used a dull color to carry out the scheme. This offset any advantage gained by full photographs or drawings on the covers. The Annual Report is not judged solely by its cover. The cover is to attract readers; the charts and graphs within the report are to show the *facts*. In case the personnel preparing the report do not care for bright colors, blue-gray and green-gray are subdued, yet clear and very effective.

The practice of placing pertinent bits of information and statistics in the colored borders of the report is becoming more frequent. It is an excellent way of being sure that the salient facts are grasped by the reader.

The divers color schemes found in the fifty selected reports were:

TABLE 8. COLOR SCHEMES IN ANNUAL REPORTS.

COLOR	NUMBER OF REPORTS USING IT AS A SCHEME COLOR
GREEN	10
BROWN	9
BLUE	9
RED-BROWN	5
GREEN-GRAY	2
BLUE-GRAY	2
ORANGE-BROWN	2
RED	2
ORANGE	2
BROWN & GREEN	2 (2-color scheme)
YELLOW	1
PURPLE	1
BLUE & RED	1 (2-color scheme)
BROWN, YELLOW, & GRAY	1 (3-color scheme)
BLACK (only)	1

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Year	Population
1800	1,000,000
1810	1,100,000
1820	1,200,000
1830	1,300,000
1840	1,400,000
1850	1,500,000
1860	1,600,000
1870	1,700,000
1880	1,800,000
1890	1,900,000
1900	2,000,000
1910	2,100,000
1920	2,200,000
1930	2,300,000
1940	2,400,000
1950	2,500,000
1960	2,600,000
1970	2,700,000
1980	2,800,000
1990	2,900,000
2000	3,000,000

14. Slightly more than half of the reports took advantage of the double-spread in the center of the report. That is, they used the two pages for a map, a large photo, a layout of drawings, etc. in preference to narrative or a small graphic and narrative, that could have just as well been presented on any two facing pages. The subjects used for the center-spread, in order of their frequency, were:

TABLE 9. SUBJECTS USED FOR CENTER SPREADS.

SUBJECT	NUMBER OF REPORTS
COMBINATION OF GRAPHICS AND NARRATIVE	21
MAP	6
BALANCE SHEET	6
DRAWINGS	5
PHOTOGRAPHS	4
NARRATIVE ONLY	4
PHOTOS & DRAWINGS	2
FLOW CHARTS	2

15. The 3-dimension bar on the next page shows that only six of the fifty Annual Reports employed any illustrations on the Balance Sheet. The majority of the six illustrations were small copies of the company seal or trademark. However, in the highlights of the reports most of the same facts that were found in the Balance Sheets were accompanied by thumbnail sketches. The use of the 3-dimension bar here is primarily for illustrating the use of the 3-dimension; this material would not normally be presented by such a chart.

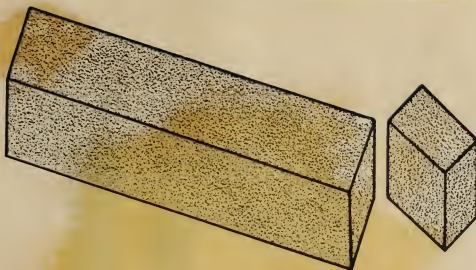
1. The first step in the process of the formation of the nucleus is the formation of the nucleolus. The nucleolus is a small, dense, spherical body located within the nucleus. It is composed of ribosomal RNA and proteins. The nucleolus is the site of ribosome biogenesis, where ribosomal RNA is transcribed and assembled into ribosomes. The nucleolus is surrounded by a nuclear envelope, which is a double membrane structure that separates the nucleus from the cytoplasm. The nucleolus is not a permanent structure and can vary in size and number within a cell. It is a key organelle in the cell, responsible for the production of ribosomes, which are essential for protein synthesis.

Table 1. The structure of the nucleolus.

Structure	Function
Nucleolar organizer region (NOR)	Site of ribosomal RNA gene transcription
Nucleolar cap	Protects the NOR from damage
Nucleolar stalk	Connects the nucleolus to the nuclear envelope
Nucleolar surface	Site of ribosome assembly
Nucleolar interior	Site of ribosomal RNA processing
Nucleolar periphery	Site of ribosomal protein import
Nucleolar core	Site of ribosomal RNA storage
Nucleolar periphery	Site of ribosomal protein export
Nucleolar core	Site of ribosomal RNA export
Nucleolar periphery	Site of ribosomal protein import

2. The second step in the process of the formation of the nucleus is the formation of the nuclear envelope. The nuclear envelope is a double membrane structure that separates the nucleus from the cytoplasm. It is composed of two lipid bilayers, the outer nuclear envelope and the inner nuclear envelope. The outer nuclear envelope is continuous with the endoplasmic reticulum, while the inner nuclear envelope is not. The nuclear envelope is perforated by nuclear pores, which are large protein complexes that allow for the transport of molecules between the nucleus and the cytoplasm. The nuclear envelope is a key organelle in the cell, responsible for the regulation of gene expression and the protection of the genetic material. The nuclear envelope is a dynamic structure that can change in response to various cellular signals. It is a key organelle in the cell, responsible for the regulation of gene expression and the protection of the genetic material.





THE SMALL BLOCK REPRESENTS THE PRO-  
PORTION OF REPORTS USING ILLUSTRATIONS  
ON THE BALANCE SHEET.

CHART-15.

16. For the most part, color was used in some form or other in the Balance Sheet. Color added interest and made the pages more inviting even though it was used only for rulings. Color was used on the Balance Sheet for the following items:



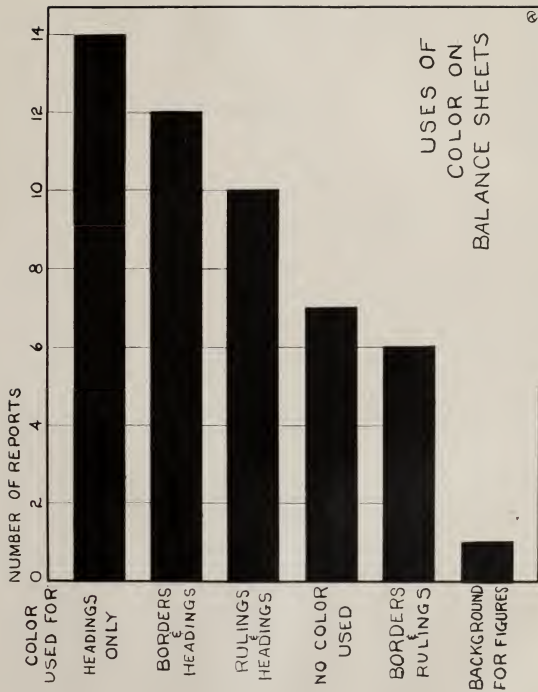


CHART-16



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Letter from John J. Ahern, Assistant Vice-President, New England Electric System, dated March 21, 1949.

Letter from H. W. Ebendorf, of The Coleman Company, Inc., dated April 1, 1949.













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